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Environmental Impact Report
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RINCON POINT-SOUTH BEACH REDEVELOPMENT PLAN SAN FRANCISCO, CALIFORNIA

San Francisco Redevelopment Agency

Publication Date: August 22,1980

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Draft
Environmental Impact Report
Environmental Impact Statement

RINCON POINT-SOUTH BEACH REDEVELOPMENT PLAN SAN FRANCISCO, CALIFORNIA

Prepared for:
San Francisco Redevelopment Agency

August 22,1980

Environmental Science Associates, Inc.

1291 E. Hillsdale Boulevard Foster City, California 94404 415/573-8500
1390 Market Street San Francisco, California 94102 415/552-4775
8725 Venice Boulevard Los Angeles, California 90034 213/838-2221

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This informational document was prepared by Environmental Science Associates, Inc., Foster City, California, to conform to the California Environmental Quality Act and State Guidelines, and the National Environmental Policy Act and federal guidelines. ESA has used its best efforts to prepare an inclusive environmental impact report/environmental impact statement by identifying and evaluating possible environmental impacts and possible measures to mitigate adverse impacts of the proposed project, and considering alternatives to the project as proposed.

This Environmental Impact Report/Statement is intended to be a full disclosure document and is provided solely to assist in the evaluation of the proposed project. ESA shall not be liable for costs or damages of any client or third parties caused by use of this document for any other purposes, or for such costs or damages of any client or third parties caused by delay or termination of any project due to judicial or administrative action, whether or not such action is based on the form or content of this report or portion thereof prepared by ESA.

I. INTRODUCTION

A. BACKGROUND AND HISTORY - NORTHEASTERN WATERFRONT AREA/1/

The Northeastern Waterfront area has been a focus of growth in San Francisco since the Gold Rush, when port activities began in that area, which was then part of the Bay. Filling of the shallow waters of the Bay and construction of the Great Seawall created today's low, flat topography. The City's growth first focused on the Northeastern Waterfront area, spreading out to the west and south with time.

Port activities continued to be vital through World War II. However, containerization of shipping cargos signaled the rapid decline of port activities, with San Francisco's old break-bulk cargo handling methods losing out to Oakland's containerization facilities. Today, parts of the Northeastern Waterfront are still used for break-bulk cargo handling, but much of the area is characterized by vacant piers and underused land, including parking lots. The area is the terminus for the Bay Bridge and a route for the Embarcadero Freeway. These transportation facilities do not serve the Northeastern Waterfront directly; rather they divide the area and create visual and physical barriers to the Bay.

In the 1970s, two private proposals were set forward for developing a total of about 3 million square feet of office space, 650,000 square feet of commercial uses, 2,200 hotel rooms, parking, and a new ship terminal on 20 acres of new fill near the Ferry Building. Adverse reaction to these proposals resulted in the development of the BCDC Special Area Plan No. 1 to control filling of the Bay and to improve public access, views and the appearance of the waterfront shoreline.

The Plan For The Northeastern Waterfront, added to the City's Master Plan in 1977, established objectives and policies for land use, transportation and urban design for the area. In the same year, the Board of Supervisors authorized a survey to investigate the different methods of improving the Northeastern Waterfront area. The survey was a joint undertaking of several concerned agencies; their recommendations appeared in a Technical Report issued in August 1979. On January 31, 1980, the City Planning Commission adopted an amendment to the Master Plan for this area, a Total Design Plan for the Ferry Building sub-area, and a Preliminary Plan for the Rincon Point - South Beach Redevelopment Project (see Planning and Regulatory Context, Section II. A. p. 7). A Redevelopment Plan, based on that Preliminary Plan, is now proposed by the San Francisco Redevelopment Agency.

B. GENERAL DESCRIPTION OF THE RINCON POINT - SOUTH BEACH PROJECT AREA

The project area is located in the eastern waterfront of the City and County of San Francisco, California. See Figure 1, p. 2. The project area is generally within a 1000 foot wide strip of land adjacent to the Bay and bounded by Mission St. to the north and China Basin to the south. The Rincon Point - South Beach Redevelopment Project consists of the proposed redevelopment of two discrete geographic sub-areas of the larger Northeastern Waterfront Survey (NEWS) area which was examined in the 1979 Northeastern Waterfront Survey Technical Report. See Figure 2, p. 4. The areas directly affected are:

FIGURE 1
LOCATION MAP
RINCON POINT - SOUTH BEACH
REDEVELOPMENT AREA

Rincon Point - a 19.2 acre area generally bounded by The Embarcadero from Harrison to a point a few hundred feet north of Howard St., and Steuart St. between Howard and Harrison Sts., plus the Rincon Annex Post Office block, and the area bounded by the Embarcadero Freeway, Spear, Folsom and Steuart Sts., and

South Beach - a 95.8 acre area generally bounded by The Embarcadero from First to Beale, Beale St. from The Embarcadero to Bryant, Bryant St. from Beale to First, easterly portions of the block fronting First St. from Bryant to Brannan, Brannan St. from First to Colin P. Kelly, Colin P. Kelly, Jr. St. and some frontage properties from Brannan to Townsend, Townsend St. from Colin P. Kelly to Second St., Second St. from Townsend to Berry, and Berry St. from Second to The Embarcadero and including Piers 40, 42, 44, 46A and a portion of 46C.

C. NEED FOR THE EIR/EIS

The proposed Redevelopment Project could result in significant effects on the environment; thus the California Environmental Quality Act of 1970 (CEQA) requires the preparation of an Environmental Impact Report (EIR). Also, federal Community Development Block Grant (CDBG) funds would be used for the financing of some of the redevelopment activities. The number of housing units proposed is greater than the threshold criterion established by the federal Department of Housing and Urban Development (HUD) for preparation of an Environmental Impact Statement (EIS). Because of these factors, a federal EIS is required by the National Environmental Policy Act (NEPA). According to implementing guidelines for CEQA and NEPA, when both documents are required a single document may be prepared. This document has been prepared to meet both CEQA and NEPA format and content requirements.

D. APPROACH TO THE EIR/EIS

To satisfy both the EIR and EIS requirements, a parallel analysis of three major alternatives was conducted comparing the environmental effects of each. The alternatives studied are:

Alternative A - An alternative based on redevelopment concepts from the Redevelopment Plan as proposed by the San Francisco Redevelopment Agency. This alternative represents the maximum development under the Proposed Redevelopment Plan. The details of this alternative are presented and discussed further in Section IV, Proposed Redevelopment Plan;

Alternative B - A second, higher-density, redevelopment alternative. This alternative has approximately half again as much housing and about four times the office space of the Proposed Plan;

Alternative C - the No-Project alternative, which would retain present uses in the area and allow new development or expansion of existing uses to occur according to existing zoning and market forces.

SOURCE: City and County of San Francisco, 1979, City Planning Code; and Environmental Science Associates, Inc.

FIGURE 2
RINCON POINT - SOUTH BEACH
REDEVELOPMENT AREA

Because there are fundamental differences in the level of detail at which each of the alternatives could be defined, the level of detail of the analysis differs for each. In each case, the analysis is carried out at a depth of inquiry and level of detail which is appropriate to each alternative, and which is sufficient to support the comparison of the alternatives and selection of a candidate project. Maximum development under the Proposed Redevelopment Plan is represented by Alternative A, which is described generally in Section III (Alternatives), and in more detail in Section IV (Proposed Redevelopment Plan). Alternatives B and C are also described in Section III. For each alternative, impacts and mitigation measures are presented in Section V., Setting, Impacts and Mitigation Measures, at a level of detail commensurate with the description of each alternative.

Because each of the alternatives has been conceived only at a "master plan" level of detail, it was necessary to use a "generic" approach to analyze impacts and to define measures to mitigate adverse impacts of each alternative. This means that impacts were projected on the basis of known general relationships among the kinds of land uses proposed (such as residential, office, retail commercial, warehousing, recreation, etc.), the existing planning framework (including zoning and height and bulk regulations), and the specific physical and social effects (such as population density, traffic loads, water use, solid waste generation, public service needs, etc.) which would result. The results of such a "generic" analysis are less precise than results of an analysis of a project for which all details are known, but these results provide sufficient information to support an evaluation of the relative merits and disadvantages of the alternatives studied. CEQA guidelines state that:

> All public and private activities pursuant to or in furtherance of a redevelopment plan constitute a single project which shall be deemed approved at the time of adoption of the redevelopment plan by the legislative body.

NOTE - Introduction

/1/ Information provided in this section was abstracted from Port of San Francisco; San Francisco Department of City Planning; and San Francisco Redevelopment Agency, August 1979, Northeastern Waterfront Survey, Technical Report.

II. PLANNING AND REGULATORY CONTEXT

A. PLANNING ACTIONS

Planning to Date. The public policy framework for the proposed project is derived from The Plan for the Northeastern Waterfront adopted by the City Planning Commission in January 1977 as an element of the Master Plan of the City and County of San Francisco and amended in January 1980; the Maritime Strategy issued by the Port of San Francisco in June 1979 as a statement of maritime and land-use objectives of the Port; the Special Area Plan No. 1 adopted by the San Francisco Bay Conservation and Development Commission (BCDC) in April 1975; and the Total Design Plan required by the Special Area Plan No. 1 which was approved by the Port Commission and City Planning Commission in January 1980, and by the Bay Conservation and Development Commission in June 1980. These served as the basis for the Preliminary Plan of the Rincon Point - South Beach Redevelopment Project which was adopted by the City Planning Commission by Resolution No. 8483 on January 31, 1980, pursuant to the requirement of Section 33322 of Chapter 4, Part 1 of the California Health and Safety Code -- the Community Redevelopment Law.

During the 1960s the changing character of the Northeastern Waterfront area, resulting from a lessening of break-bulk maritime activities, became apparent. Planning for the area resulted in the adoption in 1969 by the City Planning Commission of a Northern Waterfront Plan as an element of the Master Plan. This area-specific plan provided for a range of uses and covered the waterfront and adjacent inland areas from Aquatic Park to China Basin. It was in 1969 that the Port of San Francisco and its properties were transferred from State to City jurisdiction.

In 1973 a Waterfront Advisory Committee was established by the Board of Supervisors with representation from citizen groups as well as from the Department of City Planning, the San Francisco Redevelopment Agency, the Port of San Francisco and the Bay Conservation and Development Commission. The efforts of this Committee, in fulfillment of its planning purpose, led to the adoption by BCDC in 1975 of the Special Area Plan No. 1 covering the San Francisco Waterfront from the Hyde St. Pier to India Basin. Subsequently the Northern Waterfront Element of the San Francisco Master Plan was replaced by the Northeastern Waterfront Plan in 1977 (and by amendments adopted by the City Planning Commission in 1980) which reflected changes in concepts and policies of relevant public agencies.

In 1977 the Board of Supervisors designated the Northeastern Waterfront as a Survey Area to determine the feasibility of improvement of the area through redevelopment or alternative methods. The Northeastern Waterfront Survey was a joint undertaking of the Department of City Planning, the Redevelopment Agency and the Port of San Francisco with a Northeastern Waterfront Advisory Committee (NEWAC) created to provide citizen review and comment. The Survey culminated in a Technical Report issued in August 1979. The report recommended that the City Planning Commission modify the Master Plan. The Master Plan has been amended, as described above.

The Technical Report pointed out that a Total Design Plan, prepared by relevant local agencies, was required by the Bay Conservation and Development Commission as recommended in its adopted Special Area Plan No. 1 for the water area and the area 100 feet inland of the bulkhead wall along that portion of the waterfront extending from Broadway to the Bay Bridge. This area includes a waterfront strip in the Rincon Point sub-area extending from about 100 feet north of Howard St. to Pier 24 approximately opposite Harrison St. A Total Design Plan for this area was approved by the Port Commission on January 9, 1980, by the City Planning Commission on January 31, 1980, and by the Bay Conservation and Development Commission on June 5, 1980.

Finally, the City Planning Commission on January 31, 1980, by Resolution No. 8483, adopted a Preliminary Plan for the Rincon Point - South Beach Redevelopment Project in accordance with Section 33322 of the Community Redevelopment Law. Subsequently, the Redevelopment Agency prepared the Draft Proposed Redevelopment Plan, July 17, 1980 in consultation with the City Planning Commission, Port of San Francisco and other City departments and public agencies.

Future Planning. In addition to the Redevelopment Plan prepared in accordance with Section 33330-33344 of the Community Redevelopment Law, a report is being prepared by the Agency staff on the Plan for use by the Board of Supervisors. Formal reviewing agencies include the City Planning Commission, which must report on conformity of the Plan to the Master Plan and make recommendations regarding approval of the Plan, and the Citizens Advisory Committee. The Redevelopment Agency and the Board of Supervisors subsequently would hold a joint public hearing prior to any action of the plan. The Redevelopment Agency would approve the Plan and the Board of Supervisors would adopt the Plan, thus permitting project implementation.

Subsequent to adoption of the Redevelopment Plan, specific development plans would be prepared for specific sites by private land owners or developers or by public agencies as appropriate. Such plans would be reviewed by the Redevelopment Agency and by the Director of City Planning, who would make pertinent recommendations concerning design issues of such plans.

B. REGULATORY ACTIONS

The principal regulatory actions required to implement the redevelopment of the project area would be taken by the Redevelopment Agency, the City Planning Commission and the Board of Supervisors. The Redevelopment Agency would prepare and/or approve specific plans within the project area, and would prepare and approve development agreements.

All actions required of the Department of City Planning would precede approval of site and building permits by the Bureau of Building Inspection and issuance by the Central Permit Bureau. Each building permit application would be reviewed by the Redevelopment Agency prior to its approval to ensure that development conforms to the Rincon Point - South Beach Redevelopment Plan.

On sites which are under the ownership and administrative jurisdiction of the Port Commission, the Redevelopment Agency and the Port Commission would share responsibility for the preparation of master leases to developers.

C. EIR/EIS ACTIONS

As described in Section I, this report has been prepared as a combined Environmental Impact Report (EIR) under the requirements of the California Environmental Quality Act (CEQA) and Environmental Impact Statement (EIS) under the provisions of the National Environmental Policy Act (NEPA). The Redevelopment Agency is responsible for preparing the report, conducting a joint public hearing (with the City Planning Commission), responding to comments, and certifying the EIR/S under CEQA and NEPA. Such actions are required before Project implementation actions may be undertaken.

D. SUMMARY OF ACTIONS, REVIEWS AND APPROVALS

Table 1 presents a summary of actions, reviews and approvals, that would be required for implementation of the Rincon Point - South Beach Redevelopment Plan.

TABLE 1: SUMMARY OF FUTURE ACTIONS, REVIEWS AND APPROVALS BY AGENCY AND BY TYPE OF ACTION RINCON POINT - SOUTH BEACH REDEVELOPMENT PLAN

Agency	Action	Type of Action
Redevelopment Agency	Prepare Redevelopment Plan and a report thereon	Administrative
Redevelopment Agency	Conduct hearing with CPC, respond to comments, and certifiy the Final EIR/S	Legislative
City Planning Commission (CPC)	Report on conformity of Redevelopment Plan to Master Plan	Mandatory Referral
Redevelopment Agency	Approve Redevelopment Plan	Legislative
Board of Supervisors	Adopt Redevelopment Plan	Legislative
Redevelopment Agency	Negotiate with property owners concerning owner participation and property acquisition. Undertake land assembly, business relocation, site clearance and preparation. Dispose of land when development plans are approved	Administrative

III. ALTERNATIVES

INTRODUCTION

Each of the development alternatives discussed herein must be considered in the context of other developments and transit projects now proposed for or underway in the vicinity of the Northeast Waterfront Survey (NEWS) area. Among these private and public projects are: remodeling of the Ferry Building; construction of a Promenade along The Embarcadero south of the Ferry Building; the development of The Embarcadero with a four-lane surface roadway; the planning for the Municipal Railway (MUNI) waterfront rail E-Line along The Embarcadero, connecting the Southern Pacific Railroad (SP) Station with Fisherman's Wharf; the extension of the MUNI Metro system from the foot of Market to the SP Station, with an Embarcadero Station passenger connection to the E-Line; and proposed new office and commercial developments in the vicinity of the proposed Redevelopment area. Each of the Alternatives discussed herein takes into account these factors as they contribute to the setting against which the impacts occur.

However, the possible removal of the Embarcadero Freeway and the related development of transit, parking and roadway modifications result in a second, and quite different, setting or context for the Alternatives. The effects of each Alternative in a setting which includes the existing Freeway are presented under Case 1; the effects of each Alternative in a setting from which the Embarcadero Freeway has been removed are presented under Case 2.

A. ALTERNATIVE A - REDEVELOPMENT PLAN AS PROPOSED

A.1 CASE 1

Alternative A consists of the implementation of a series of redevelopment actions together with certain street modifications which would be included as a part of the Project. The proposed generic land uses and the accompanying street modifications are presented herein. These proposed uses are described in detail in Section IV, The Proposed Redevelopment Plan, p. 23.

RINCON POINT LAND USE

Development within the Rincon Point sub-area would be preceded by the demolition of existing structures in the sub-area, with the exception of the existing Rincon Annex Post Office structure, which would be adapted for reuse. Existing land uses are listed under Alternative C and discussed in detail in Section V.A, Land Use, Zoning, Aesthetics, p. 29. Table 2, p. 13, lists the generic land uses proposed for the Rincon Point sub-area under Alternative A. Also see Figure 3, p. 12.

RINCON POINT PRINCIPAL STREETS

The Embarcadero would be re-routed along Steuart St. from Howard to Harrison, with intersections at Howard, Folsom, and Harrison Sts.

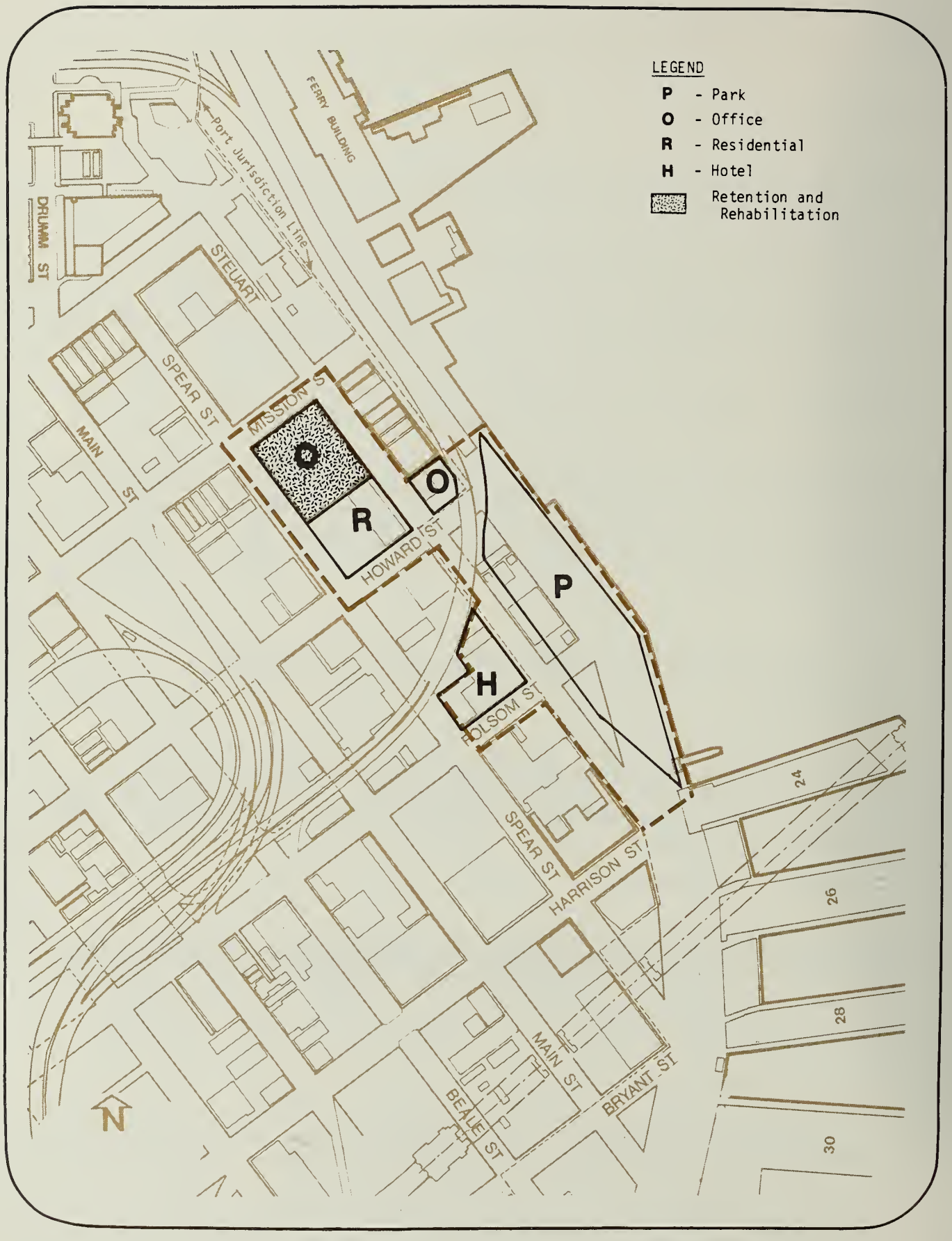


FIGURE 3
ALTERNATIVE A
RINCON POINT SUB-AREA

Folsom St. east of Steuart may be closed.

Mission St. may be closed from Spear to The Embarcadero.

Steuart St. may be closed to through traffic from Mission to Howard.

TABLE 2: PROPOSED GENERIC LAND USES
RINCON POINT SUB-AREA
ALTERNATIVE A

Assessor's Block No.	Office (sq ft)	Retail Commerce (sq ft)	Housing (units)	Hotel (units)	Parking (spaces)	Open Space (acres)
3715	80,000	-	-	-	-	-
3716	200,000	35,000	400	-	400	-
3741	-	65,000	130	800	300	-
3742/3743	-	12,000	-	-	-	6.5 (park)
TOTALS	280,000	112,000	530	800	700	6.5

SOUTH BEACH LAND USE

Development within the South Beach sub-area would be preceded by the demolition of most existing structures in the sub-area, with the possible exception of four existing historic warehouses and two additional structures. Existing land uses are listed under Alternative C. Table 3, p. 15, lists the generic land uses proposed for the South Beach area under Alternative A. Also see Figure 4, p. 14.

SOUTH BEACH PRINCIPAL STREETS

The principal streets would include Bryant St., The Embarcadero (from Bryant to King), King St. (from The Embarcadero to Second), Second St., and Brannan St.

Berry St. would be closed east of Second, and The Embarcadero would be closed south of King.

The following additional streets may be closed to through traffic: Beale St. from Bryant to Brannan; Fremont St. from Brannan to The Embarcadero; and Second St. from King to Berry.

The following streets may be closed to through traffic and improved as walkways, allowing only limited local and service vehicle access: Townsend St. between Second and The Embarcadero; Colin P. Kelly, Jr. St. between Townsend and Brannan; and First St. between The Embarcadero and Bryant.

SPECIFIC ON-SITE AND OFF-SITE TRANSPORTATION CHANGES

No transit improvements in addition to the E-Line development and MUNI Metro extension are assumed.

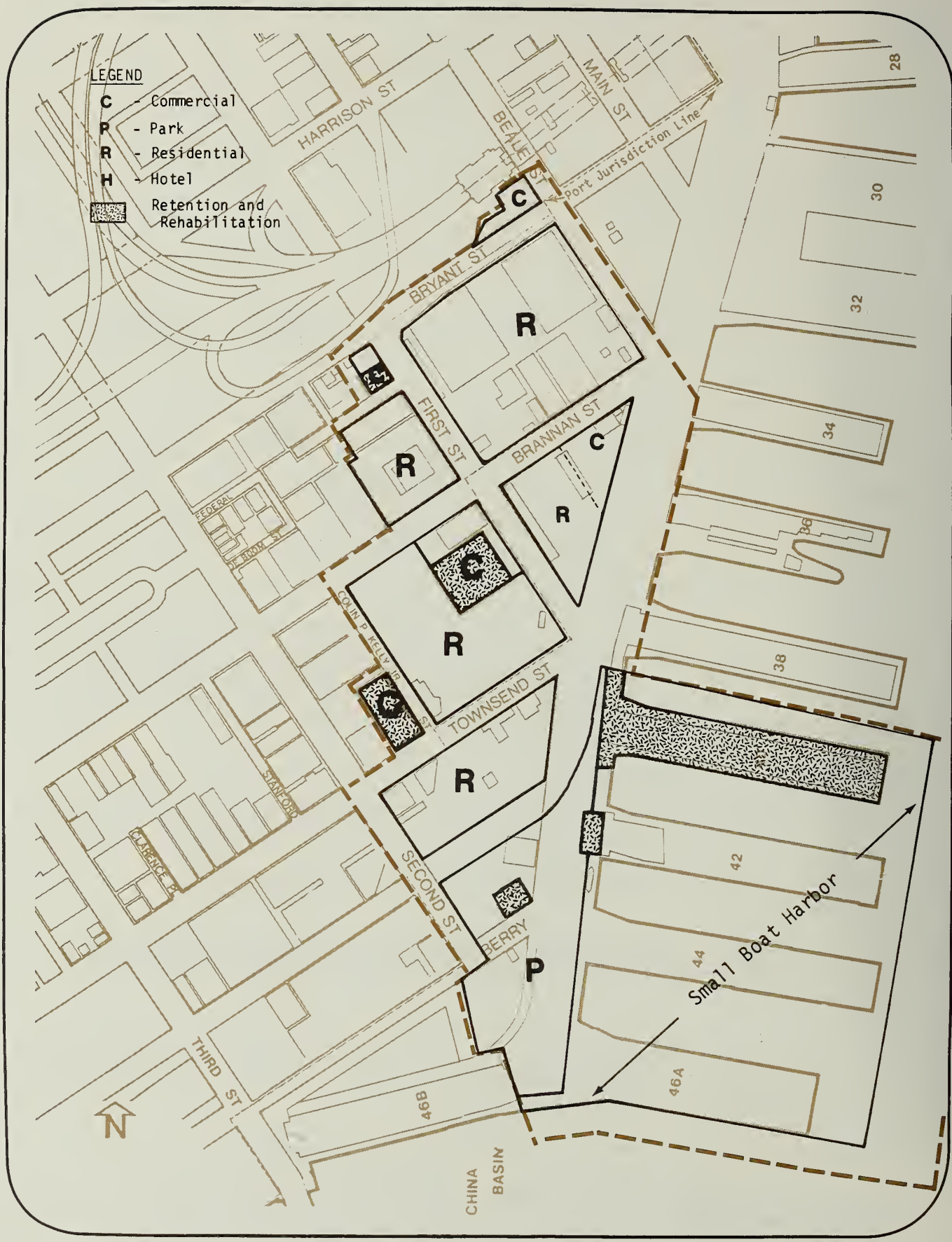


FIGURE 4
ALTERNATIVE A
SOUTH BEACH SUB-AREA

TABLE 3: PROPOSED GENERIC LAND USES
SOUTH BEACH SUB-AREA
ALTERNATIVE A

Assessor's Block No.	Office (sq ft)	Retail Commerce (sq ft)	Housing (units)	Open Space (acres)	Warehouse (sq ft)
3766		12,000	-	-	-
3773	-	-	802	-	-
3774 *	-	55,000	242	-	90,000 *
3789	-	128,700	413	-	-
3790	-	-	153	-	-
3791	-	60,000	-	-	-
3792	-	-	188	-	-
3793	-	-	167	-	-
3801/3802	**	-	-	7.0 (park)	-
Piers 40/42/44/46A		12,000 + ++	-	400 boat slips	-
TOTALS	0 **	267,700 + ++	1965	7.0	90,000 *

* Industrial use kept, part Lot 24; structure on Lot 18 remains warehouse.
** Office use (ILWU building) to remain.
\+ Marina support activities on Pier 40 in addition to 12,000 sq. ft. commercial use near Pier 44.
++ Restaurant in an existing ship (now between Piers 42 and 44) to remain.

NOTES: The above notes refer to certain existing structures in the Project area; these are discussed in Section V.A, Land Use, Zoning, Aesthetics, p. 29.

Parking provided: 1 per dwelling unit and 5 per 1000 sq. ft. commercial.

A.2 CASE 2

Alternative A, under the Case 2 setting, would include the same redevelopment program, land uses, and street improvements in the Rincon Point - South Beach sub-areas as under Case 1. The generic land uses in the Rincon Point and South Beach sub-areas are presented in Table 2, p. 13, and Table 3, p. 15. The only distinction would be that design changes might be made on the Hotel in the Rincon Point sub-area in the absence of the constraints imposed by the presence of the Embarcadero Freeway.

In contrast to the Case 1 setting, the Case 2 setting would include the roadway and related transportation modifications noted below, chiefly the removal of the Embarcadero Freeway. These modifications are not related to redevelopment plan implementation activities, nor are they necessarily within the authority of the San Francisco Redevelopment Agency to propose nor to implement; however, these transportation changes, which have been previously studied, have potentially substantial interactions with the redevelopment actions proposed. Thus, in order to provide a thorough analysis, these modifications (discussed below) are considered under Case 2 for the purposes of this study.

FIGURE 5
CASE 2 SETTING

SPECIFIC ON-SITE AND OFF-SITE TRANSPORTATION CHANGES

The original Northeastern Waterfront Survey (1979) included in its analysis a major scenario which focused on the removal of the Embarcadero Freeway and the development of a number of auxiliary actions to mitigate the adverse impacts of the removal. These changes, considered to be an integral part of the Case 2 setting, are shown in Figure 5, p. 16, and described below:

Roadway Modifications.

The Embarcadero Freeway and its ramps, including the Washington and Broadway on- and off-ramps, would be removed. The existing Main and Beale St. ramps accessing I-80 and the Bay Bridge would be retained, but connections from those ramps to the Embarcadero Freeway would be removed.

Improvements would be made to existing I-80 ramps between Seventh St. and the waterfront.

Modifications would be made to Bryant, Harrison, Second and Fourth Sts. to improve traffic flow and circulation; transit preference corridors would be developed on Second and Fourth Sts.

Parking Improvements.

A total of 4500 intercept parking spaces would be developed south of Market St., along I-80 and I-280. About 1000 carpool parking spaces would be developed south of, and within walking distance of Market St.

Transit Improvements./1/

A series of transit improvements, in addition to the E-Line development and MUNI Metro extension, would be made, including:

the addition of 25 buses to the MUNI system, including the addition of 20 buses to provide transit connector service from interceptor parking lots;

the addition of 10 BART cars and 22 AC Transit buses to improve service from the East Bay;

the addition of 5 Golden Gate Transit buses to improve service from Marin County; and

the addition of 5 SamTrans buses to improve service from San Mateo County, together with SP rail service improvements.

NOTE - Alternative A

/1/ Wilbur Smith and Associates, 1980, NEWS Transportation Technical Reports.

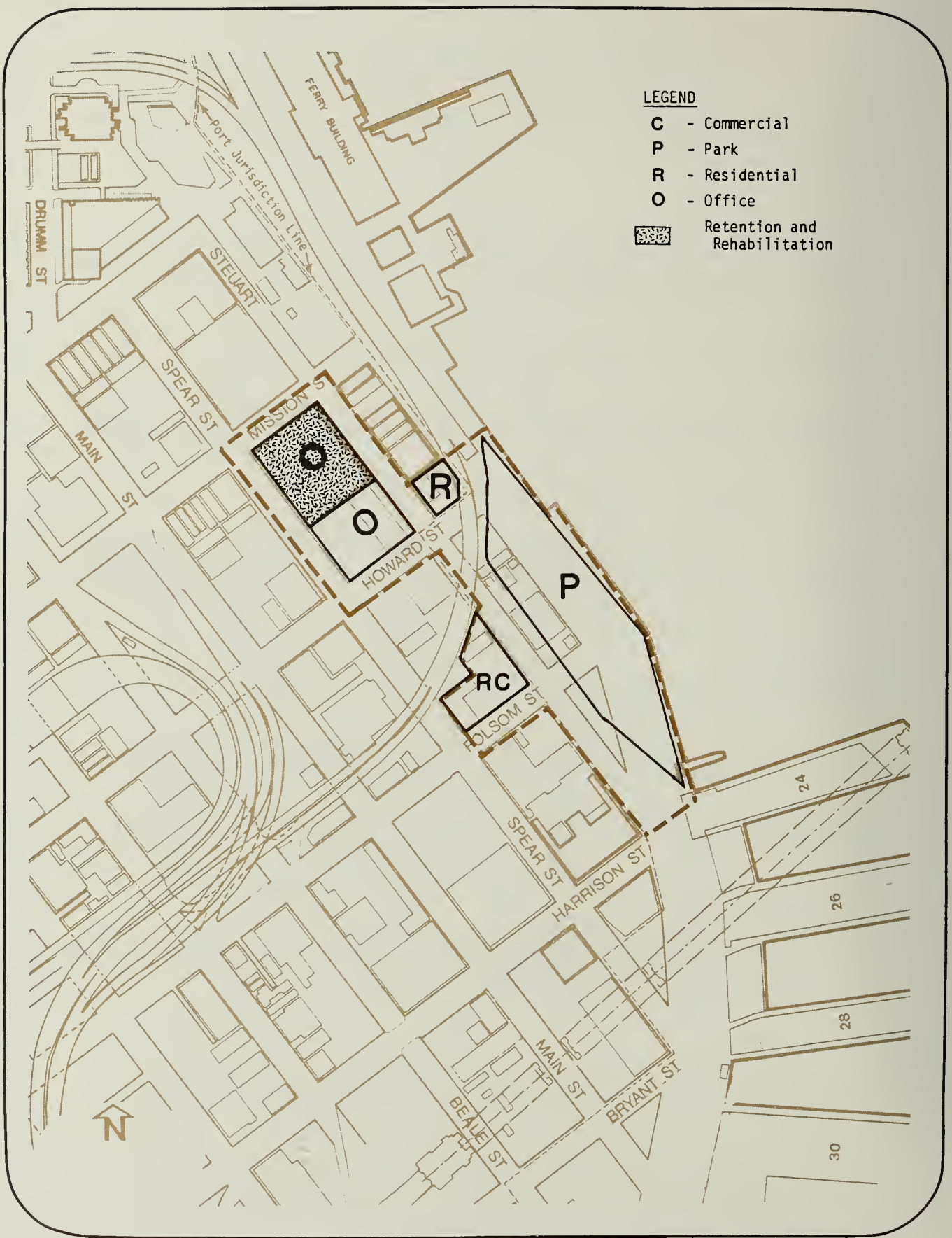


FIGURE 6
ALTERNATIVE B
RINCON POINT SUB-AREA

B. ALTERNATIVE B - HIGHER-DENSITY REDEVELOPMENT

B.1 CASE 1

Alternative B consists of the implementation of a series of redevelopment actions together with certain street modifications which would be included as a part of this alternative. The proposed generic land uses and the accompanying street modifications are presented herein.

RINCON POINT LAND USE

Development within the Rincon Point sub-area would be preceded by the demolition of all existing structures in the sub-area, with the exception of the existing Rincon Annex Post Office structure, which would be adapted for reuse. Existing land uses are described under Alternative C and discussed in detail in Section V.A, Land Use, Zoning, Aesthetics, p. 29. Table 4, p. 19, lists generic land uses proposed for the Rincon Point sub-area under Alternative B. Also see Figure 6, p. 18.

TABLE 4: POSSIBLE GENERIC LAND USES
RINCON POINT SUB-AREA
ALTERNATIVE B

Assessor's Block No.	Office (sq ft)	Retail Commerce (sq ft)	Housing (units)	Open Space (acres)
3715	-	-	30	-
3716	1,030,000 *	30,000	-	-
3741	90,000	25,000	250	-
3742/3743	-	12,000	-	6.5 (park)
TOTALS	1,120,000	67,000	280	6.5

* Consists of 200,000 sq ft. of office rehabilitation and 830,000 sq ft. of new office space.

NOTE: Parking provided: 1 per dwelling unit and 5 per 1000 sq. ft. commercial.

RINCON POINT PRINCIPAL STREETS

All streets as described under Alternative A.

SOUTH BEACH LAND USE

Development within the South Beach sub-area would be preceded by the demolition of most existing structures in the sub-area, with the possible exception of one existing historic warehouse and two other structures. Existing uses are described under Alternative C, following. Table 5, p. 21, lists generic land uses proposed for the South Beach area under Alternative B redevelopment. See Figure 7, p. 20.

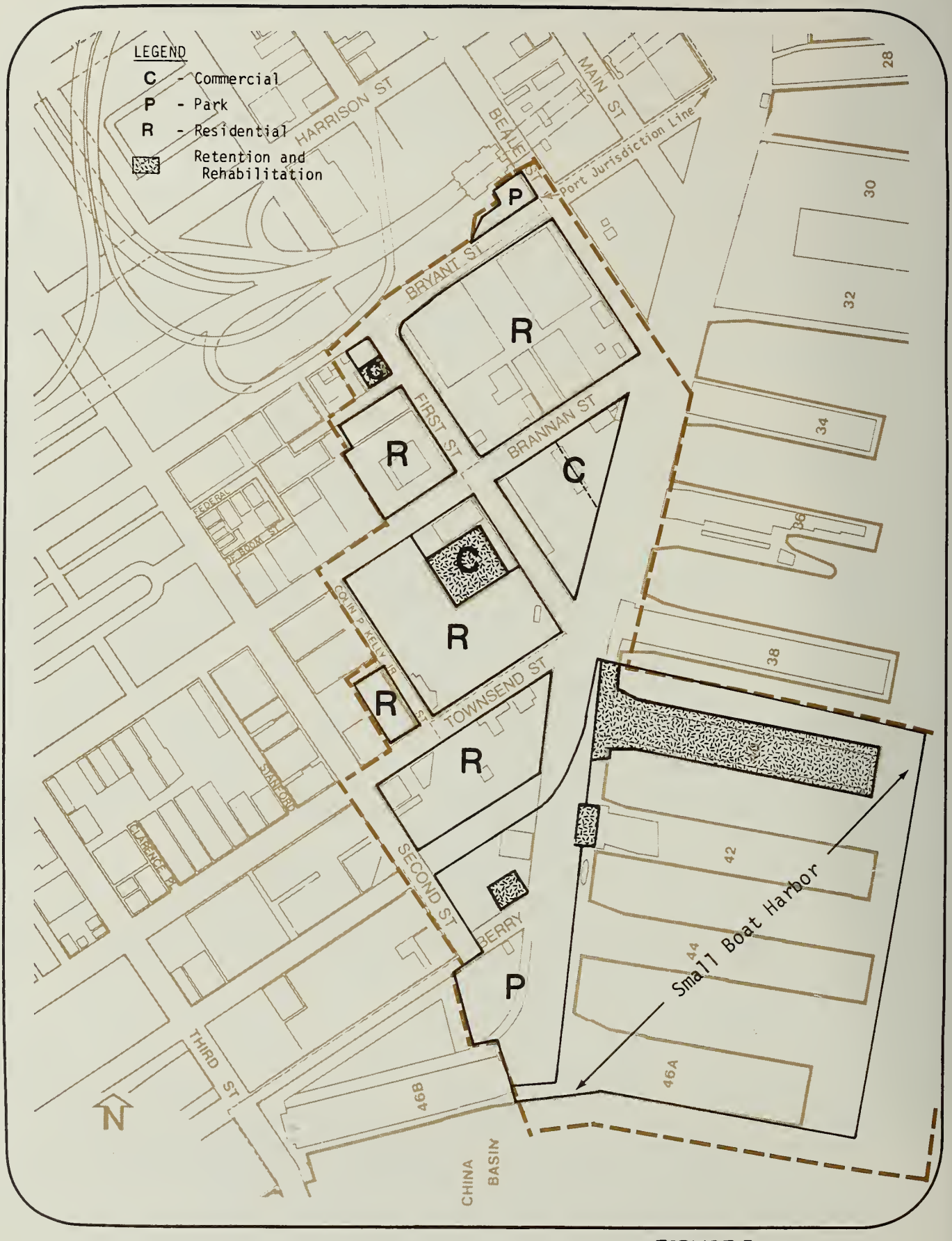


FIGURE 7
ALTERNATIVE B
SOUTH BEACH SUB-AREA

SOUTH BEACH PRINCIPAL STREETS

All streets as described under Alternative A.

SPECIFIC ON-SITE AND OFF-SITE TRANSPORTATION CHANGES

No transit improvements in addition to the E-Line development and MUNI Metro extension are assumed.

TABLE 5: POSSIBLE GENERIC LAND USES
SOUTH BEACH SUB-AREA
ALTERNATIVE B

Assessor's Block No.	Office (sq ft)	Retail Commerce (sq ft)	Housing (units)	Open Space (acres)
3766		-	-	0.46
3773	-	-	1604	-
3774	-	49,000	400	-
3789	-	90,000	882	-
3790/3791	-	110,000	-	-
3792	-	-	376	-
3793	-	-	334	-
3801/3802	*	-	-	7.0 (park)
Piers 40/42/44/46A	-	12,000 + ++	-	400 boat slips
TOTALS	0	261,000 + ++	3596	7.46

* Office use (ILWU building) to remain.
\+ Marina support activities on Pier 40 in addition to 12,000 sq. ft. commercial use near Pier 44.
++ Restaurant in an existing ship (now between Piers 42 and 44) to remain.

NOTES: The above notes refer to certain existing structures in the Project area; these are discussed in Section V.A, Land Use, Zoning, Aesthetics, p. 29.

Parking provided: 1 per dwelling unit and 5 per 1000 sq. ft. commercial.

B.2 CASE 2

Alternative B, under the Case 2 setting, would include the same redevelopment program, land uses, and street improvements in the Rincon Point - South Beach sub-areas as under Alternative B, Case 1. In contrast to the Case 1 setting, the Case 2 setting would include the roadway and related transportation modifications noted on p. 17, chiefly the removal of the Embarcadero Freeway.

C. ALTERNATIVE C - THE NO-PROJECT ALTERNATIVE

C.1 CASE 1

Alternative C is the NO-PROJECT alternative. Under the NO-PROJECT alternative, no Redevelopment Agency actions would be taken to influence development within either of the Project sub-areas. Thus, existing uses would remain, and new uses would be developed, subject to the economic forces of the private real estate market. It is assumed for the purposes of this analysis that all existing uses would remain in the foreseeable future, but that upgrading and replacement of uses within the existing zoning would occur. Existing general land uses which are considered to be a part of Alternative C are presented in Table 6, p. 22. All growth in the Project area is assumed to increase the number of commercial, office and light industrial uses. Such growth would occur in vacant areas first, and then in areas now used for parking. Growth would occur at a moderate rate over the period of interest solely through the initiative of private developers or private land owners.

TABLE 6: PRESENT LAND USES AND SURFACE AREAS
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA
(Areas in square feet)

	RINCON POINT	SOUTH BEACH	TOTAL
Retail Commercial	17,802	590,466	608,268
Retail Office	6,646	0	6,646
Light Industrial	50,416	181,206	231,622
Downtown Support Services	151,250	194,100	345,350
Public Land Downtown Support Parking	96,808	196,471	293,279
Vacant	0	71,000	71,000
All Streets	513,036	955,763	1,468,799
All Land	835,958	2,189,006	3,024,964
Open water	0	1,319,807	1,319,807
Piers	0	664,200	664,200
All Water (Bay)	0	1,984,007	1,984,007
TOTAL	835,958	4,173,013	5,008,971

C.2 CASE 2

The No-Project Alternative would be the same under the Case 2 setting as under the Case 1 setting. Under Case 2, roadway and related transportation modifications, chiefly the removal of the Embarcadero Freeway, are assumed; see Alternative A, Case 2, p. 15. Effects of the Case 2 setting are presented in the Environmental Impact Assessment, Northeast Waterfront Survey, (Jordan/Avent, 1979), which is incorporated by reference; the No-Project Alternative under the Case 2 setting is not discussed further herein.

IV. PROPOSED REDEVELOPMENT PLAN

A. INTRODUCTION

The Proposed Redevelopment Plan has been developed through the combined efforts of the staffs of the Department of City Planning, the Redevelopment Agency and the Port of San Francisco together with the Northeastern Waterfront Advisory Committee (NEWAC). The proposed plan reflects the major decisions made in the conduct of the Northeastern Waterfront Survey and consolidates public input and review together with the policy and planning guidance provided by the Port's Maritime Strategy, BCDC's Special Area Plan and the City Planning Commission's Plan for the Northeastern Waterfront.

B. THE PROPOSED REDEVELOPMENT PLAN

The Proposed Redevelopment Plan contains development proposals for each of two subareas of the Northeastern Waterfront Survey area. Each of the subareas, Rincon Point and South Beach, contains a number of Action Sites, for which some general and some specific redevelopment actions are proposed. The various redevelopment action proposals are presented here at the level of detail at which each is now conceived.

RINCON POINT LAND USE

The land uses proposed for the area are:

Assessor's Block 3715:

Commercial: Approximately 80,000 square feet of office space would be developed in a new structure.

Design Considerations: The new development would be designed with consideration for its historic environment and relationship to the surrounding buildings.

Assessor's Block 3716 (Rincon Annex Block):

Commercial: The Rincon Annex Building, including the lobby and murals but excluding the separate loading dock structures, would be retained and restored as a historic landmark. The adaptive re-use may include such uses as a local post office and/or museum in the lobby area and about 200,000 square feet of office space around a possible new interior court.

Residential: The rear or southern portion of the Rincon Annex Block would be developed with approximately 400 housing units with retail use on the ground floor and office use on the second and third floors. A total of about 35,000 square feet of commercial space and 400 parking spaces would be provided.

Design Considerations: The new development would be designed with consideration for its historic environment and relationship to YMCA - East Street Row, Rincon Annex Building, and the Ferry Building.

Assessor's Block 3741:

Hotel Complex: The southern portion of Block 3741 would be developed with an 800 room hotel complex, about 130 units of residential housing, 65,000 square feet of commercial retail uses and a 300 space garage.

Design Considerations: The hotel would be designed to maximize view and sunlight and to minimize wind exposure. The taller elements of the complex would be located as far west and north as possible to reduce shading on waterfront open spaces. Elevator cores and service areas would be located as far toward the Embarcadero Freeway as possible to screen noise and minimize impacts on the rest of the complex and open spaces. Roof surfaces would be used, as feasible, for gardens, terraces, and balconies. Balconies would be designed to take advantage of views and break up the building's mass. Light colors would be used on the building exteriors and bright accents used to liven surfaces. Garage access would be from Folsom St.

Assessor's Blocks 3742 and 3743:

Major Park: A 6.5 acre park would be developed in the area vacated by the re-routing of The Embarcadero onto Steuart St. between Howard and Harrison Sts. In addition, 12,000 square feet of the area, north of Folsom St., would be developed with a restaurant(s).

Design Considerations: The public park would be adjacent to and inland of the promenade. The park would be oriented to the Bay and would be intended to satisfy the recreational preferences of residents rather than tourists. Large grassy open areas, a range of recreational equipment including play structures, a tot lot, benches, game tables under shelter, and restrooms would be provided.

Space on the inland site north of Folsom St. would be used for "Tavern-on-the-Green" type restaurant(s) and plaza. Restaurant design would include opportunities for indoor and outdoor dancing and dining and for special events. Hard-surface plaza areas and terraces of varied elevations would be developed adjacent to the restaurant(s). Landscaping and glass screens would be used to protect these areas from winds. If feasible, outdoor heating would be provided in selected areas to extend the seasonal and night-time comfortable usage of plazas. Restaurant(s) would be encouraged to expand their seating into portions of the plazas but design would ensure that the plazas do not become the sole territory of private establishments. Seating which does not require patronage of adjacent restaurants would be provided in the plazas.

RINCON POINT PRINCIPAL STREETS

The alterations to principal streets would include the re-routing of The Embarcadero along Steuart St. from Howard St. to Harrison St. with intersections at Howard, Folsom, and Harrison Sts. In addition the following street closures may be included: Folsom St., east of Steuart St.; Mission St., from Spear St. to The Embarcadero; and Steuart St., from Mission St. to Howard St.

SOUTH BEACH LAND USE

The land uses proposed as a basis for redevelopment are:

Assessor's Block 3766:

Commercial: 12,000 square feet of commercial use would be developed.

Assessor's Blocks 3773, 3790, 3792 and 3793:

Residential: Housing would be developed at an average density of approximately 90 units per acre, according to the following distribution:

Block 3773 - 802 dwelling units;
Block 3790 - 153 dwelling units;
Block 3792 - 188 dwelling units; and,
Block 3793 - 167 dwelling units.

Design Considerations: Housing would be developed in small clusters of 100 to 200 units. Housing structures would have a range of building heights between 4 and 9 stories within the height limits existing at the time of Plan adoption, with the lower heights near The Embarcadero and taller structures further inland. The mix of unit types would be principally one and two bedrooms but would include some three and four bedroom units. To the extent feasible, family units would be located on ground floor levels adjacent to open space and recreational areas. Private entryways and open space would be provided to all units.

The structures and dwelling units would be designed to express character and diversity and oriented to provide privacy and security. Design features would include articulated, multi-faceted facades, bay windows, cornice lines, roofscapes, overhangs, towers and chimneys. Locations of the dwelling units would maximize views to the water and to the downtown as well as sun exposure; shading of open space and blocking of views from adjacent areas would be minimized. Varied light colors would be used to break up the mass of buildings.

Most parking would be incorporated as part of the building within the housing clusters. Residential units would be located above parking structures to minimize differential settlement. Parking structures would have controlled vehicular access points and direct access to residential units for increased security. Additional guest and service parking for the residential units would be in street right-of-ways or adjacent to the clusters. Garages may be only a half level below grade due to the high water table; exposed garage edges would be landscaped or buffered. Planting wells would be used to allow large trees to grow within residential clusters. To the extent feasible, portions of the garage roofs not covered by structures would be improved for walkways and recreation areas.

Residential development plans include a unit mix goal of 20% low-, 30% moderate- and 50% market-rate housing, with a mix of rental, cooperative, and condominium units.

Assessor's Blocks 3774 and 3789:

Residential: Housing would be developed according to the following distribution:

Block 3774 - 242 dwelling units; and,
Block 3789 - 413 dwelling units

Design Considerations: See Design Considerations, above.

Neighborhood Commercial: Commercial areas would be developed with facilities for support retail, professional services, and other uses oriented to the needs of residents of the adjacent housing and the larger South of Market area. The warehouses on the west side of Colin P. Kelly, Jr. St. and the Cape Horn Warehouse on the west side of First St. would undergo historic restoration and may continue to be used for warehousing. Commercial uses would be developed according to the following distribution:

Block 3774 - 55,000 square feet (24,000 and 6,000 square feet new, rehabilitation of 25,000 square feet existing) and 90,000 square feet of warehousing; and
Block 3789 - 128,700 square feet (90,000 square feet new and rehabilitation of 38,700 square feet existing).

In addition to and in conjunction with its historic restoration, the Oriental Warehouse would include a combination of such uses as retail commercial, day-care, recreation and service facilities.

Design Considerations: The building to the north of the Oriental Warehouse, along the line of Brannan Street, would be removed to enhance the form and visibility of the Warehouse. The exterior facade of the Oriental Warehouse would be maintained; those windows that have been added without regard to the general appearance of the exterior would be removed. Portions of the existing paving would be preserved as a public plaza and setting for the warehouse; unused spur tracks would be removed.

Assessor's Block 3791:

Neighborhood Commercial: About 60,000 square feet of commercial uses would be developed in new structures.

Design Considerations: In the area east of Fremont Street, south of Brannan Street, and west of The Embarcadero, commercial buildings would be placed to shield residential areas from noise of adjacent ship repair activity. Architectural design would preserve views of the water from the residential areas. Because of the visibility from adjacent residences, roof design considerations would include concealing roof equipment, landscaping of flat roofs and finishing of sloped roofs. Exposed parking areas would be extensively landscaped. Turf block paving may be used instead of asphalt.

Assessor's Blocks 3801 and 3802:

Major Park and Open Space: A 7.0 acre area would be developed for recreational use. In addition, the office use (the ILWU building now located on The Embarcadero north of Berry Street) would remain.

Piers 40, 42, 44 and 46A:

Small Boat Marina: A marina would be developed with facilities which include about 400 slips for small boats.

Piers: Pier 40 would be used for marina support activites; a full range of services related to recreational boating would be provided, including such uses as boat building and repair facilites, dry dock storage, sail making, boat sales and rental, and ship chandlery. In addition, the restaurant use in an existing ship (now located on The Embarcadero between Piers 42 and 44) would remain.

Design Considerations: Piers 42, 44, and 46A would be removed. A breakwater would be constructed along the southern end of the harbor. Public access would be provided and public fishing encouraged on the breakwater.

SOUTH BEACH PRINCIPAL STREETS AND WALKWAYS

The layout of principal streets includes Bryant St., The Embarcadero (from Bryant St. to King St.), King St. (from The Embarcadero to Second St.), Second St., and Brannan St. Berry St. east of Second St. and The Embarcadero south of King St. would be closed. The following additional streets may be closed to through traffic: Beale St., Fremont St., First St., Collin P. Kelly, Jr. St., and Second St. from King St. to Berry St.

Walkways and Open Space: The following streets may be closed to through traffic and improved as walkways, allowing only limited local and service vehicle access: Townsend, between Second and The Embarcadero; Colin P. Kelly Jr., between Townsend and Brannan; and First St., between The Embarcadero and Bryant.

A major plaza may be developed next to the Oriental Warehouse; walkways may connect that plaza to smaller open spaces within the proposed neighborhood.

Design Considerations: Walkways may open onto small plazas; plazas and walkways may be placed so as to be protected from winds. Lighting, walkways design, ingress and egress points and good surveillance by building orientation may be used to enhance the feeling of outdoor security.

GENERAL PROVISIONS

Design for all development would be reviewed by the Director of City Planning or his designees. In the event of a disagreement between the Director of City Planning and the Executive Director of the Redevelopment Agency regarding design, the matter would be resolved by the Redevelopment Agency Commission.

V. ENVIRONMENTAL SETTINGS, PROBABLE IMPACTS, AND MITIGATION MEASURES

A. LAND USE, ZONING, VISUAL AND AESTHETIC

LAND USE, ZONING, VISUAL AND AESTHETIC SETTING

Northeastern Waterfront Survey Area. The Rincon Point - South Beach Redevelopment Project was based on a recommendation of the Northeastern Waterfront Survey (NEWS) Technical Report. Covering approximately 140 acres located on the northeast corner of the San Francisco Peninsula, the survey area was divided into the Ferry Building Area (north of the Bay Bridge to Broadway) and the North China Basin Area (south of the Bay Bridge to China Basin). The Rincon Point sub-area is located within the Ferry Building Area, and the South Beach sub-area is located within the North China Basin Area.

The Ferry Building Area included port-related activities on Piers 1-7 and the remnants of Piers 14-24. The area's other major features are the Rincon Annex Post Office, some light industrial uses, and open land used mainly for parking. Outside the survey area to the northwest is the Financial District.

The North China Basin Area included Piers 26-46A east of The Embarcadero. Some of these piers still handle shipping activities while others are vacant and in poor repair. West of The Embarcadero industrial and warehouse buildings predominate, with some commercial uses interspersed. There are also some vacant lands, mostly located along railroad sidings which run along The Embarcadero.

Land Use

The Rincon Point sub-area consists of approximately 19.00 acres, of which 12.00 acres are streets. The second highest land users in this sub-area are the state and federal governments. The federal land is occupied by the Rincon Annex Post Office, and the state lands are devoted to the Embarcadero Freeway and public and private parking.

The South Beach sub-area consists of approximately 50 acres of land area, of which 22 acres are streets. The next highest acreage is devoted to maritime uses--Piers 40, 42, 44 and 46A (15.25 acres) are owned by the Port of San Francisco; this is followed by commercial and industrial uses, which occupy 23 acres, and railroad tracks, which occupy 5.5 acres.

Zoning

The relevant City Planning Code land use (zoning) districts are shown in Figure 8, p. 30; Planning Code Height and Bulk Districts are shown in Figure 9, p. 32. The area north of Folsom St., surrounding and including the Project area, is predominantly classified by the City Planning Code as a C-3-0 (Downtown Office) use district and C-3-S (Downtown Support) use district, with the Rincon Annex Post Office classified P (Public). The South Beach sub-area and its environs are designated M-1 (Light Industry) and M-2 (Heavy Industrial), with small pocket areas of RC-2 (Residential-Commercial Combined Districts, Moderate Density) and P (Public) districts west of the Project area in and near South Park. See also Tables 7 and 8, pp. 31 and 33.

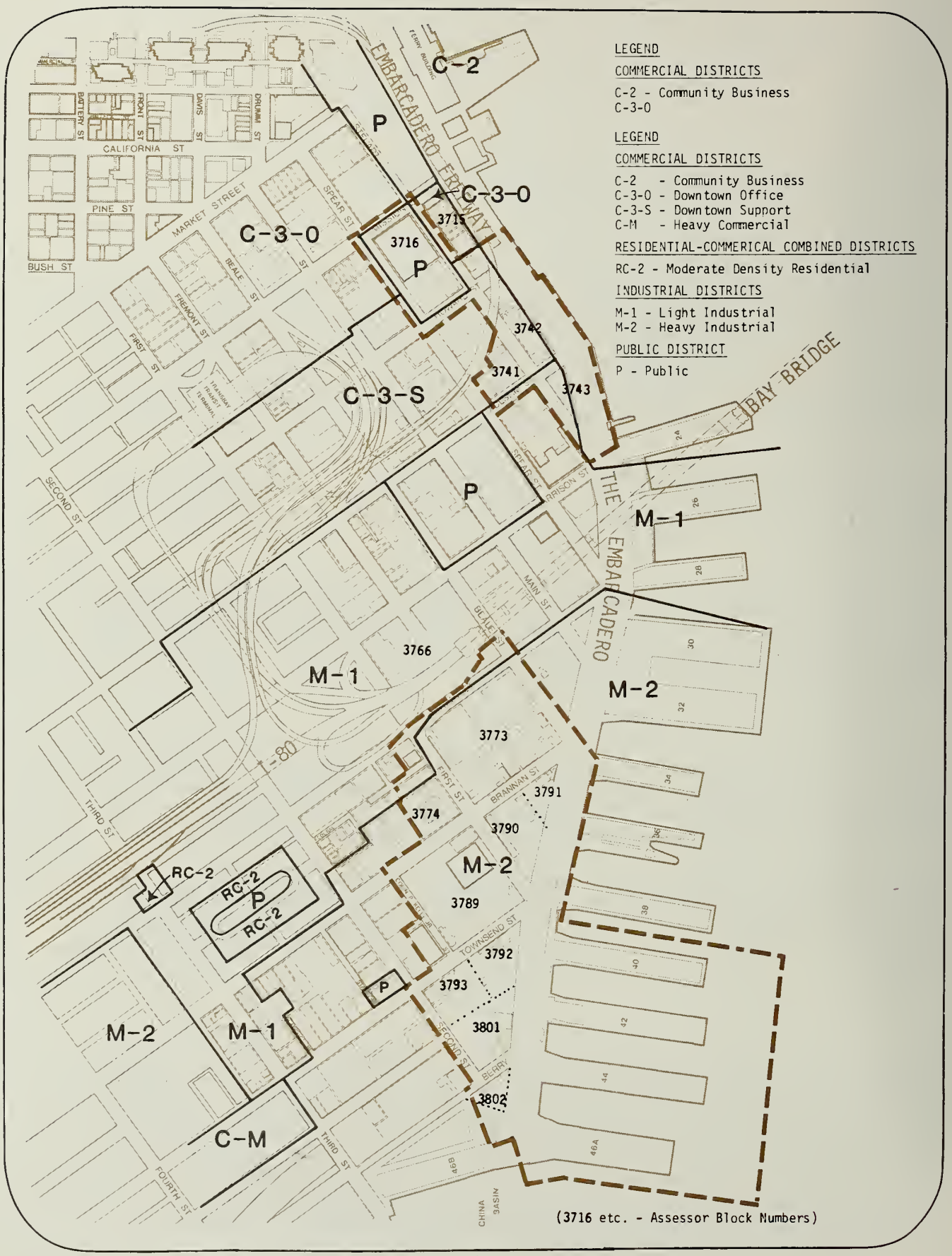


FIGURE 8
PLANNING CODE LAND USE (ZONING) DISTRICTS
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA

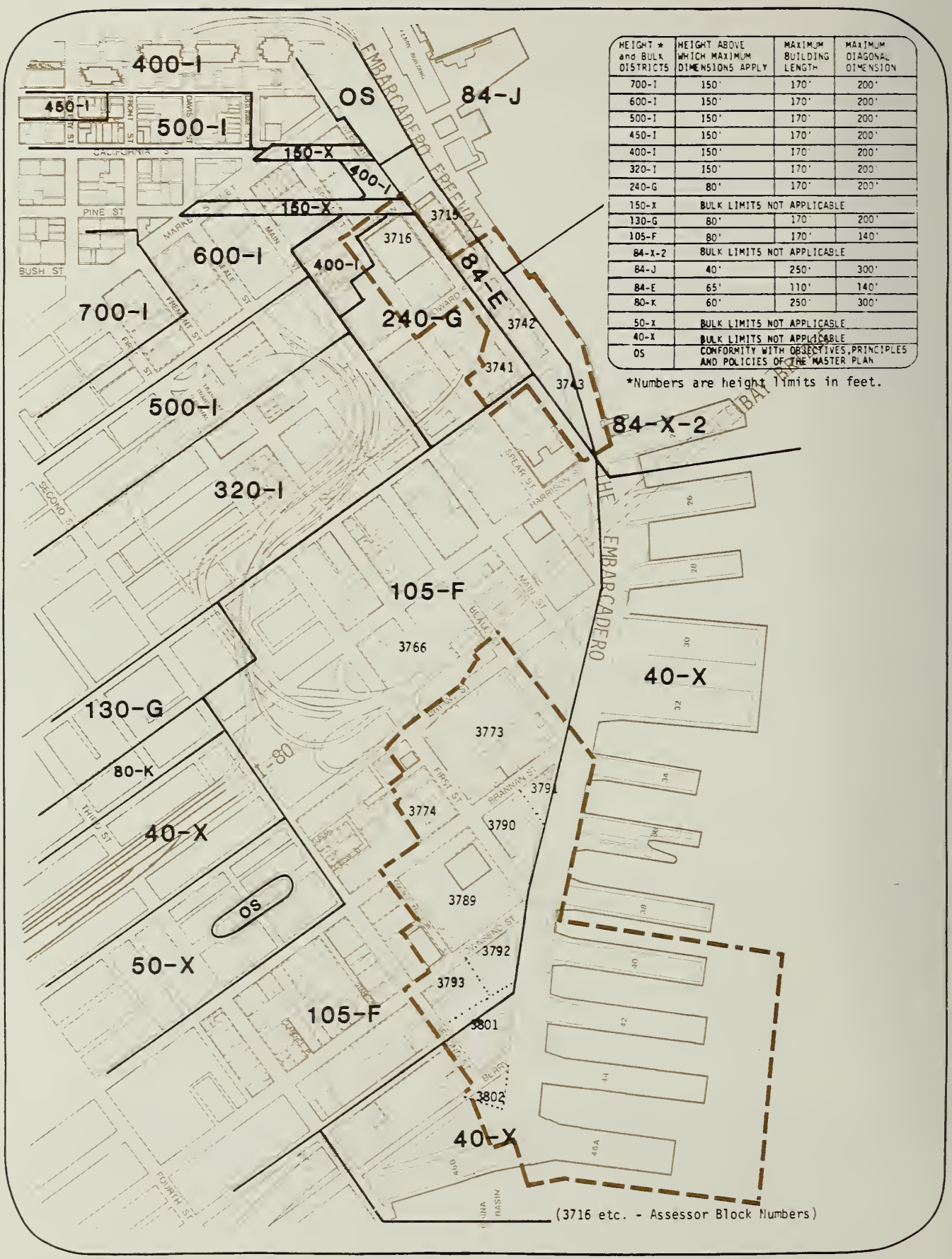
TABLE 7: LAND USE AND ZONING BY BLOCK
RINCON POINT SUB-AREA

Block 3715	bounded by Mission St., The Embarcadero, and Howard and Steuart Sts., is mostly in commercial and hotel use, with some public parking. Only the southern quarter of this block, that portion south of the YMCA Hotel, is in the Project area. The portion within the Project area is zoned C-3-S and is in an 84-E height and bulk district.
Block 3716	bounded by Mission, Steuart, Howard, and Spear Sts., houses only the Rincon Annex Post Office. (Zoning - P; height and bulk district - 240-G.)
Block 3741	bounded by Howard, Steuart, Folsom, and Spear Sts., has a variety of uses. A little over half of the land is occupied by public parking lots and a warehouse. The remainder of the land is in retail commercial uses, an appliance and grocery warehouse and a sail manufacturing company. The block is divided by the Embarcadero Freeway; only the area south of the Freeway is within the Project area. (Zoning - C-3-S; height and bulk district - 240-G.)
Block 3742	bounded by Howard St., The Embarcadero, and Folsom and Steuart Sts., is divided into two uses. The major land use here is the Marine Terminals Equipment Company. The other land use is parking on land owned by the state. (Zoning - C-3-S; height and bulk district - 84-E.)
Block 3743	bounded by Folsom St., The Embarcadero, and Steuart St., is owned by the Port of San Francisco and is used by Hills Brothers Coffee for employee parking. (Zoning - M-1; height and bulk district - 84-E.)

Visual and Aesthetics

The overall visual characteristics of the Northeastern Waterfront Survey Area generally apply to the Rincon Point and South Beach sub-areas. The Northeastern Waterfront Survey Area was once a vital area of San Francisco, with thriving maritime and related activities which contributed to the City's economic well-being. Over the 35 years since World War II, activity in the area has declined. On the waterfront proper there are abandoned and decaying piers, some destroyed by fire, with port and non-port activities centering around the Ferry Building. Inland, the overall impression is of visual incoherence, with vacant lots and parking lots interspersed with industrial buildings and warehouses. There are few trees or plants and the streets are generally in poor repair.

The Rincon Annex Post Office has been well maintained. It is noted for its murals by Anton Refregier depicting episodes in the history of California. It is scheduled to close in 1982, being replaced by a new facility at the India Basin Industrial Park being developed by the Redevelopment Agency.



HEIGHT * and BULK DISTRICTS	HEIGHT ABOVE WHICH MAXIMUM DIMENSIONS APPLY	MAXIMUM BUILDING LENGTH	MAXIMUM DIAGONAL DIMENSION
700-I	150'	170'	200'
600-I	150'	170'	200'
500-I	150'	170'	200'
450-I	150'	170'	200'
400-I	150'	170'	200'
320-I	150'	170'	200'
240-G	80'	170'	200'
150-X	BULK LIMITS NOT APPLICABLE		
130-G	80'	170'	200'
105-F	80'	170'	140'
84-X-2	BULK LIMITS NOT APPLICABLE		
84-J	40'	250'	300'
84-E	65'	110'	140'
80-K	60'	250'	300'
50-X	BULK LIMITS NOT APPLICABLE		
40-X	BULK LIMITS NOT APPLICABLE		
OS	CONFORMITY WITH OBJECTIVES, PRINCIPLES AND POLICIES OF THE MASTER PLAN		

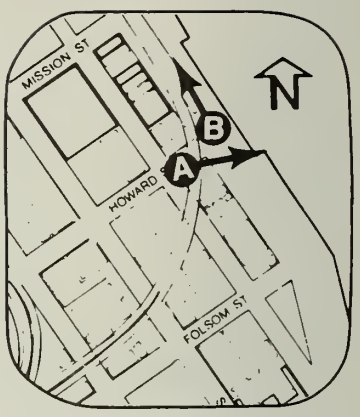
*Numbers are height limits in feet.

FIGURE 9
PLANNING CODE HEIGHT AND BULK DISTRICTS
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA

TABLE 8: LAND USE AND ZONING BY BLOCK
SOUTH BEACH SUB-AREA

Block 3766	the small portion at Bryant and Beale Sts. is used for public parking. (Zoning - M-1; height and bulk district - 105-F.)
Block 3773	bounded by Bryant, Beale, Brannan and First Sts., houses the United States Postal Service equipment repair building, and some commercial uses such as a marine supply business. (Zoning - M-2; height and bulk district - 105-F.)
Block 3774	west of First St. between Bryant and Brannan Sts. has some vacant land. Only the eastern quarter of this block, occupied primarily by warehouses, is within the Project sub-area. (Zoning, northern half of block - M-1, southern half of block - M-2; height and bulk district - 105-F.)
Block 3789	bounded by Brannan, First, Townsend and Second Sts., has a variety of uses; the largest are the Oriental Warehouse and associated public parking. Other uses are two commercial businesses, public parking lots and railroad tracks. (Zoning - M-2; height and bulk district - 105-F.)
Blocks 3790, 3791 and 3792	port seawall lots south of Brannan St., all have commercial businesses, such as lumber and auto parts. (Zoning - M-2; height and bulk district - 105-F.)
Block 3793	between Townsend and King Sts. and abutting Block 3792 at the east, has public parking and a small commercial business. (Zoning - M-2; height and bulk district - 105-F.)
Blocks 3801 and 3802	bounded by King and Second Sts. and The Embarcadero, are seawall lots and are occupied by a cafe, offices of the International Longshoremen's and Warehousemen's Union, and vacant land. (Zoning - M-2; height and bulk district - 40-X.)
Piers 40, 42, 44 and 46.	this area, owned by the Port of San Francisco, consists of old finger piers used for maritime and nonmaritime purposes. A heliport is on Pier 46A (Zoning - M-2; height and bulk district - 40-X.)

The sub-areas, which are generally flat, can be considered visually blighted. In the Rincon Point sub-area this is aggravated by the presence of the 70-foot-high Embarcadero Freeway, which was built without regard for the appearance of buildings such as the Ferry Building and its tower, or the YMCA Hotel, or for the effects of the structure on occupants of these buildings.



Location of Views

TOP

A. Looking east from The Embarcadero near Howard St., shows an unimpeded view of the Bay Bridge and Yerba Buena Island (the open view results from the removal of Pier 16). Occupants and users of the proposed mixed-use activity area east of the Embarcadero Freeway would have a similar view. From points west of the Freeway, Bay views would be impeded by the freeway structure. The ornamental light standard seen is the type designed in 1971; these light standards would be retained on The Embarcadero.

RIGHT

B. From The Embarcadero looking north, this view is dominated by the Embarcadero Freeway, which blocks the view of the historic YMCA building. Under the Case 1 setting, the freeway would remain visible to users of the mixed-use district and to residents. Under the Case 2 setting, the freeway structure would be removed.

FIGURE 10
PHOTOGRAPHS
RINCON POINT - SOUTH BEACH
REDEVELOPMENT AREA

The Embarcadero Freeway blocks sightlines from Telegraph Hill and most views of the pier bulkhead structures and The Embarcadero. From Potrero Hill, unbroken views of the northeastern waterfront are limited to those of the water surface and Piers 26 through 46A. The visual setting at several locations within the Project area is shown by photographs in Figure 10, pp. 34 - 38.

LAND USE, ZONING, VISUAL AND AESTHETIC IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

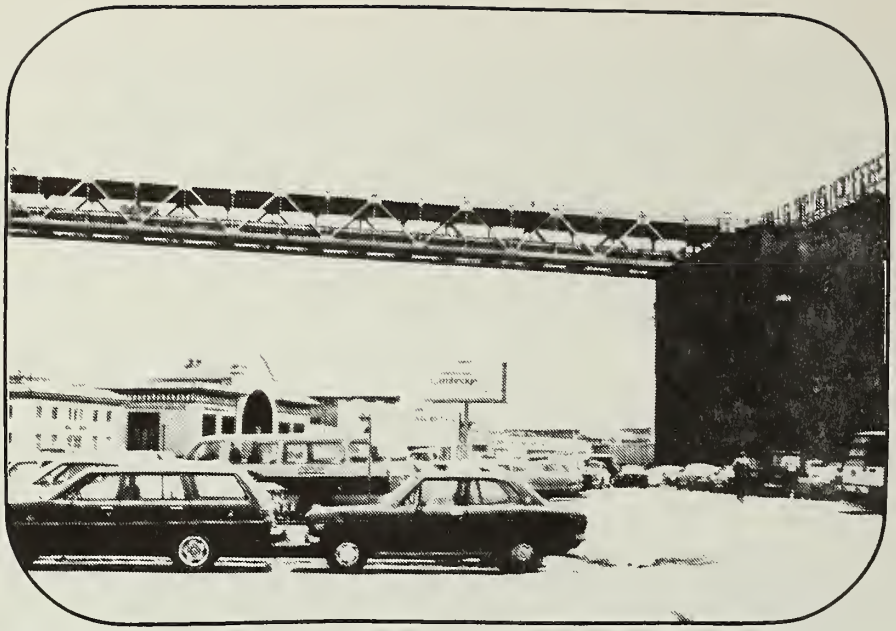
Case 1

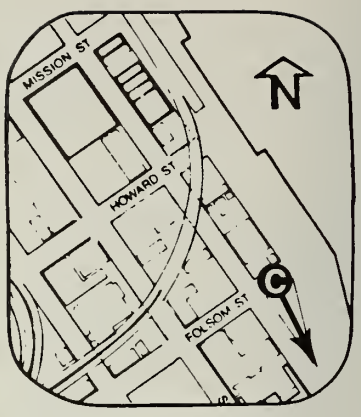
Conformance to Plans and Policies

The proposed plan is in conformance with all pertinent plans and policies, including the Master Plan of the City and County of San Francisco, the Maritime Strategy of the Port of San Francisco, and The Plan for the Northeastern Waterfront as amended by Resolution 8481 of the Planning Commission on January 31, 1980. The proposed plan is also in conformance with the Total Design Plan required by the Bay Conservation and Development Commission (BCDC) Special Area Plan No. 1, which was recommended by the Northeastern Waterfront Citizens Advisory Committee on September 12, 1979, and approved by the Port Commission on January 9, 1980, by the City Planning Commission on January 31, 1980 and by BCDC on June 5, 1980. These plans provide for balanced development of the area, with maritime activities given precedence. Other recommendations of these plans include provision of public open space and pedestrian access to the waters of the Bay where feasible, appropriate backup uses on inland sites, and removal of the Embarcadero Freeway.

The policies of the BCDC Special Area Plan No. 1, as well as the provisions of the McAteer-Petris Act under which BCDC functions, require that any project built either on fill (new piers are considered fill for this purpose) or on the shoreline must provide public access to the shoreline to the maximum extent feasible. The Port of San Francisco is currently proposing to develop a waterfront promenade that would extend from the Ferry Building to Pier 24. The proposed park development in the Rincon Point sub-area would adjoin and have direct access to the waterfront promenade which would extend almost the full length of the shoreline boundary of the Rincon Point sub-area. The proposed promenade would provide visual and physical access to the water along stairways and upper and lower level vista points. At Pier 22 1/2, just outside the Rincon Point sub-area, the Fire Department would continue to dock and maintain its fireboat. At Pier 24, adjacent to the sub-area, historic ships would be docked; they would contain commercial and recreational uses generally accessible to the public. All of the land use provisions of the proposed Redevelopment Plan comply with the BCDC Special Area Plan.

In the South Beach sub-area, the area now occupied by Piers 40, 42, 44 and 46A would be devoted to a 400-berth boat marina and support facilities. Public access to the Bay waters would be made available at the marina. Near the South Beach sub-area Piers 26 through 38 would be maintained for continued maritime use or related activities such as ship repair. Public access would be generally denied at these piers due to safety and security factors.





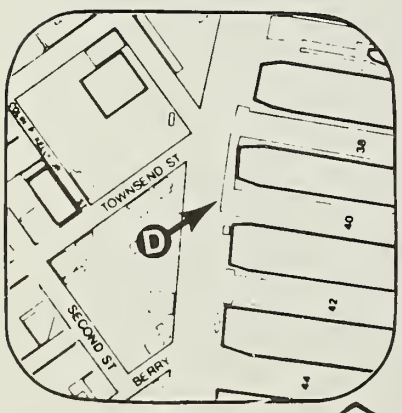
Location of View

TOP

C. This view is between Steuart St. on the right and The Embarcadero on the left, looking south from Folsom St. The roadway of The Embarcadero and the Belt Line and MUNI rails would be on the right, and the park and promenade would be on the left side of this view. Historic ships tied up at the adjacent Pier 24 would replace the building at the left. The Project would lead to the removal of the prominent standard size billboard next to the existing rails.

BOTTOM

D. This view is from King St. looking northeast across The Embarcadero toward Piers 38 and 40. This would be part of the view of the occupants of the residential units in the southern part of the South Beach sub-area, and would be partially visible from other sections of the project. The presence of this active ship repair facility would provide a sense of historical continuity, visual interest and identity to the area. Direct views of the Bay would be blocked in most of the South Beach sub-area, between Piers 32 through 40, a maritime area, except when the waterfront area is not occupied by ships.



Location of View

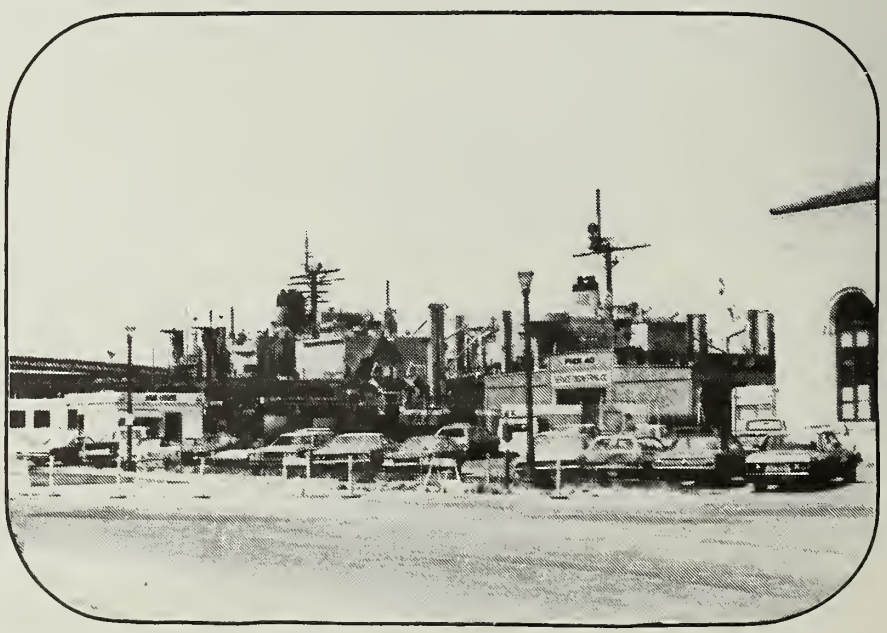


FIGURE 10 (Continued)
PHOTOGRAPHS
RINCON POINT - SOUTH BEACH
REDEVELOPMENT AREA

Land Use

Alternative A would change the Project area from a small fragmented combination of retail, commercial and parking lot uses to a unified employment, residential and recreational center with access from major downtown arteries.

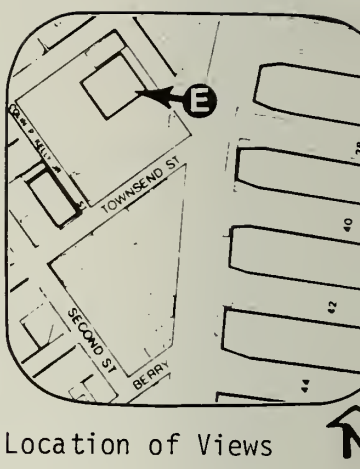
The principal changes in land use in the Rincon Point sub-area would result from the completion of the new office and residential uses in Block 3716, currently occupied by the Rincon Annex Post Office, and from completion of the hotel complex in Block 3741. The commercial offices and residential uses on the Rincon Annex Post Office block would be designed to preserve the Refregier murals and the lobby space they occupy as a public area. The new development would replace the loading docks and resultant heavy truck traffic now on the site. The hotel would encourage and attract more visitors to the Project area. Special attention would be given to the design of the proposed hotel to buffer it against noise from the double-decked freeway which abuts the site.

Also included in the Rincon Point sub-area would be a large park providing recreational and leisure activities as well as continuous access to the Bay along The Embarcadero from the Ferry Building to Pier 24. This open space would encourage employees and visitors to frequent various restaurants and other commercial attractions of the waterfront area. Existing parking lots within the Rincon Point sub-area would be eliminated. Parking facilities would be located in the proposed hotel, and some existing lots and a parking structure located outside the Project area (on the northern and western boundaries) would remain to serve the area.

The major land-use change in the South Beach sub-area would be the development of the proposed residential community. The character of this part of the Project area would change from warehouse-industrial to a more residential and commercially oriented area. The closing of Beale, First, Townsend, and Colin P. Kelly, Jr. Sts. in the sub-area, as well as The Embarcadero, Berry and Second Sts. south of King St. to traffic would enhance the compatibility of the area for residential use. The proposed marina would support facilities for boaters such as restaurants, sanitation facilities, boat maintenance and repair, sail making, boat sales and related uses. Removal of the piers for the building of the marina would cause the present heliport on Pier 46A to relocate.

The provision of parking beneath the residential units to serve the proposed residential and commercial developments would maximize the amount of land available for development. A parking facility for commuters is proposed for the north side of Bryant St. between Main and Beale Sts. just north of the South Beach sub-area boundary.

The maritime uses which would be retained near the Rincon Point - South Beach sub-areas would be served by the San Francisco Belt Railroad, with access to each pier shed from a main track located in the median of The Embarcadero or on the west side of The Embarcadero. Rail access to the piers would entail the use of spur tracks which would cross The Embarcadero from the main track of the Belt Railroad on the inland side of The Embarcadero to each of the piers. This historic pattern would conflict with automobile, truck and bus traffic on The Embarcadero, resulting in delays when rail cars are switched back and forth across the roadways.



Location of Views

ABOVE

E. This view is of the Oriental Warehouse on First St. south of Brannan St. Built in 1867, the Oriental Warehouse is the oldest surviving warehouse in the South Beach sub-area. The project plan provides for the physical restoration and upgrading of the structure as an historic building and neighborhood center.

FIGURE 10 (Continued)
PHOTOGRAPHS
RINCON POINT - SOUTH BEACH
REDEVELOPMENT AREA

This switching activity, and the noise resulting from coupling and uncoupling individual cars from trains, would have a noise impact on the proposed residential uses in Block 3773 of the South Beach sub-area between Bryant and Brannan Sts. adjacent to the switching points (See Noise, Section V.H, p. 96). Some of the residential uses proposed in Assessor's Blocks 3792 and 3793 would be adjacent to the Belt Railroad and public transit (Embarcadero E-line) on King St. The 800-room hotel at Folsom and Steuart Sts. would be less directly affected by the Belt Railroad since there would be no switching in the vicinity, and access to the waterside park and promenade would be controlled by traffic signals at Folsom St. and The Embarcadero.

Use of Seawall Lots 229 and 230 (Assessor's Block 3772, outside the Project area) for Belt Railroad marshaling and for maritime trucking would tend to be incompatible with adjacent residential uses proposed in Block 3773 west of Beale St. A complete physical separation between the two uses would be required for safety, and a landscaping screen would provide a means of visual separation (see Mitigation Measures under Alternative A, p. 40.

Zoning

The principal zoning change required in the Rincon Point sub-area would be to change the classification of Block 3716 from OS (Open Space) to accommodate the proposed commercial and residential uses. An extension of the adjoining C-3-O (Downtown Office) district would permit these uses.

Block 3742 would be changed from C-3-S to OS (Open Space) to accommodate the proposed park use. Block 3743 would be changed from M-1 to OS to accommodate the proposed park use.

The precise zoning and height limit changes considered most appropriate would conform with the Redevelopment Plan. The marina and park would be reclassified from M-2 to OS to better reflect the uses proposed.

Visual and Aesthetic

Under this alternative the visual quality of the Project area, when one is looking out over San Francisco Bay towards Yerba Buena Island and the East Bay, would be opened up and enhanced, primarily through the elimination of Piers 14 through 22 adjacent to the Project area, and the elimination of Piers 42 through 46A. In the Rincon Point sub-area, views toward the east along Howard and Folsom Sts. would be of Yerba Buena Island in the distance over a foreground park and shoreline promenade, rather than of pier structures. With removal of decaying piers and of parking lots, improvements to the roadway and track alignments along The Embarcadero, and removal of free-standing outdoor advertising structures, the visual appearance of the entire Project area would become one of renewed vitality and harmony.

The proposed mixed-income housing in the South Beach sub-area would be arranged to maximize residents' views of the Bay and downtown and to preserve views toward the Bay. The residential structures would range from 4 to 9 stories, with the lower buildings located near The Embarcadero and the taller structures located further inland.

Visual impacts from various locations within the Project area are described in the text accompanying Figure 10, pp. 34 - 38.

Case 2

Land Use

Implementation of Alternative A under the Case 2 setting would cause the same land use changes as in Alternative A under the Case 1 setting. Elimination of The Embarcadero Freeway would tend to attract additional traffic to The Embarcadero from the I-280 off-ramp at Fourth and Berry Sts. and from and to the Main and Beale St. ramps at Mission St. (see Transportation, Section V.F, p. 67). Removal of the structure would reduce the visual obstructions and the level of noise in the Rincon Point sub-area. Alternative A would conform with all plans and policies and more specifically with all features of the Plan for the Northeastern Waterfront as amended in January 1980.

Zoning

Zoning impacts of Alternative A under the Case 2 setting would be the same as under the Case 1 setting.

Visual and Aesthetics

Removal of the Embarcadero Freeway would improve the harmony of scale in the area, and consequently its visual quality. With the removal of this structure, the future occupants of the Rincon Point sub-area would have unobstructed views of the Ferry Building, the Bay Bridge, East Bay and Yerba Buena Island. Views of the Financial District to the north and west would be opened up, eliminating a visual and psychological barrier between the two areas. The character and visual quality of the proposed 800-room hotel would be enhanced by the removal of the Embarcadero Freeway. The historic YMCA building, outside of the Project area, could be visually integrated into the Project area under this setting.

Mitigation Measures - Alternative A

Case 1

Land Use

The Redevelopment Agency would require the developer of the hotel proposed in Block 3742 to design the structure to shield occupants from noise from the Embarcadero Freeway to the maximum extent possible.

Physical separation of the residential uses in Block 3793 from the traffic on King St. and in Block 3773 from the holding tracks and from truck storage facilities east of Beale St. would be provided in the final building design.

Zoning

No mitigation would be required.

Visual and Aesthetic

Specific building designs would be reviewed by the Executive Director of the Redevelopment Agency and the Director of City Planning before permit approval to assure that the quality of design and the visual effects conform with pertinent policies and plans.

Case 2

Land Use

Mitigation measures would be the same as under the Case 1 setting except that the hotel site would be free of the visual and noise impacts caused by the Embarcadero Freeway, assuming that the Embarcadero Freeway would be removed before the hotel is occupied.

Zoning

No mitigation would be required.

Visual and Aesthetic

Specific building designs would be reviewed by the Executive Director of the Redevelopment Agency and the Director of City Planning before permit approval to assure that the quality of design and the visual effects conform with pertinent policies and plans.

Impacts - Alternative B

Case 1

Land Use, Zoning

Alternative B would result in the development of four times as much office space, half again as much housing, and about the same amount of retail commercial space as would Alternative A. See Tables 2 through 6, Section III, p. 11.

Under Alternative B, the greatest concentration of office space would be in Assessor's Block 3716, the Rincon Annex Post Office block, where 830,000 sq. ft. of new office space would be provided. It would probably require a modification of the 240-ft. height limit on the southern two-thirds of the block in order to accommodate this office space in an economically efficient manner.

Alternative B would also result in the development of a total of 3,876 dwelling units. Most of this increase would result from higher average housing densities in the South Beach housing areas, increases in the heights of some buildings or increased land coverage, or a combination of these. The principal housing in the Rincon Point sub-area would be located on Assessor's Block 3741, on the site immediately south of the Embarcadero Freeway. Here, Alternative B would permit up to 250 dwelling units in combination with 90,000 sq. ft. of office space and 25,000 sq. ft. of commercial space. Thirty dwelling units would also be built at the south end of Block 3715 between The Embarcadero and Steuart Sts. at Howard St. Parks, open space, and the small boat marina would be the same in Alternative B as in Alternative A except that almost 20,000 sq. ft. of park space would be added to the area in Block 3766, just south of the San Francisco terminus of the San Francisco - Oakland Bay Bridge.

Visual and Aesthetic

The greater visual and aesthetic impacts of Alternative B, as compared to Alternative A, would result primarily from the taller structures and greater land coverage required to accommodate the increased office and residential space. This would be most apparent in the Rincon Annex Post Office block and in the principal residential blocks in the South Beach sub-area.

Case 2

The impact of Alternative B under the Case 2 setting would be the same as under the Case 1 setting, with the exception that residents in Blocks 3715 and 3741 would not be subjected to noise from the Embarcadero Freeway.

Mitigation Measures - Alternative B

Case 1

Land Use

The residential uses in Blocks 3715 and 3741 would be required to be designed so as to shield occupants from visual and noise intrusions from the adjacent Embarcadero Freeway.

Physical separation of the residential uses in Block 3793 from the traffic on King St. and in Block 3773 from the holding tracks and truck storage facilities east of Beale St. would be provided in the final Project design.

Zoning

No mitigation would be required.

Visual and Aesthetic

Specific designs would be reviewed by the Executive Director of the Redevelopment Agency and the Director of City Planning before permit approval to assure that the quality of design and the visual effects conform with pertinent policies and plans.

Case 2

Land Use, Visual and Aesthetic

Physical separation of the residential uses in Block 3793 from the traffic on King St. and in Block 3773 from the holding tracks and truck storage facilities east of Beale St. would be provided in the final Project design. Specific designs would be reviewed by the Executive Director of the Redevelopment Agency and the Director of City Planning before permit approval to assure that the quality of design and the visual effects conform with pertinent policies and plans.

Zoning

No mitigation would be required.

Impacts - Alternative C

Land Use

As this is a "no-project" alternative there would be no direct impacts. However, without coordinated redevelopment activities in the Project area (allowing only landowners to initiate development), the present mixture of inappropriate and declining land uses and underutilized vacant lands would probably continue.

Zoning

In the no-project alternative, no major zoning changes would occur. The only zoning changes that might occur would result from petitions by landowners.

Visual and Aesthetic

This alternative, while not causing any direct adverse impacts, would extend into the foreseeable future the entire set of current adverse visual and aesthetic impacts which the Project area imposes on the City as a whole, and on the area in particular.

Mitigation Measures - Alternative C

None required.

B. BUSINESS RELOCATION

BUSINESS RELOCATION SETTING

Existing Employment Characteristics. The Project area currently contains a variety of mostly space-intensive business/1/ including parking lots, the Rincon Annex Post Office, the United States Post Office's Vehicle Serving Facilities, the Marine Terminal, an Office of the International Longshoremen's and Warehousemen's Union, various warehouses, a drayage firm, and a lumber yard. A heliport operation is located on Pier 46A. These businesses employ an estimated 2,490 to 2,670 workers of which an estimated 84% to 90% are employed at the Rincon Annex Post Office (2,045 employed) and the Vehicle Services Facilities (190 employed). These jobs are primarily blue collar in nature, with a few managerial positions also.

Blue-collar jobs have been declining in San Francisco for more than a decade. The central waterfront has suffered the greatest decline due to the move toward cargo containerization and the resulting emergence of Oakland as the dominant port in the Bay Area. The decline in manufacturing and wholesaling business stems from increasing land costs in San Francisco, which drive these space-intensive businesses to suburban areas. The trend toward departure of blue collar jobs from the City is expected to continue in the foreseeable future. The Mayor's Office of Economic Development is attempting to retain as many blue-collar jobs within the City as possible./2/

Relocation Benefits. Relocation activities are administered by Relocation Services staff of the San Francisco Redevelopment Agency. The Agency provides relocation assistance and benefits in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, meeting all federal, state, and local regulations. A review of the Project area indicates that relocation activities would relate solely to businesses as there are no known residents in the Project area. Should residents be found in the Project area either at present or prior to plan approval, the Agency would provide full relocation benefits and assistance to residential tenants. Business relocation benefits provided by the Federal Act include:

1. Moving Costs

a. Actual reasonable moving expenses (can include some storage costs)
b. Property loss (direct loss of tangible personal property, which is equal to fair market value minus receipts from sale of the property)
c. Up to $500 in expenses incurred searching for a new location

2. Payment in Lieu of Moving Costs

Certain businesses are eligible for from $2,500 to $10,000 in payments if they close as a result of the Project. The exact amount is equal to the average annual net earnings of the concern for the two years prior to displacement, up to $10,000.

Revenues for these payments would come from federal Community Development Block Grants. The payment limits for in-lieu moving costs have not been adjusted since 1970.

The Redevelopment Agency has an owner participation program which encourages existing property owners to develop their property in conformance with the Redevelopment Plan. This program, if successful, eliminates much of the need for the Agency to purchase real property and can minimize the need for relocation assistance. However, if an owner participant developed a new use on his/her property or rehabilitated the existing structure, some relocation assistance might still be needed.

BUSINESS RELOCATION IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

Case 1 / Case 2

Employment. The Project would employ up to 4,000 workers at full buildout. These jobs would be primarily white collar, retail, and service; the character of area employment would change from blue collar. Some of the displaced blue-collar workers might move out of San Francisco, while others might find employment elsewhere in the City.

Relocation. A total of about 75-240 existing jobs would be displaced by Project implementation, about 15 from the Rincon Point sub-area and about 60 to 235 from the South Beach sub-area./3/ The 2,235 postal jobs, at the Rincon Annex Post Office and Vehicle Service Facilities, are planned to be transferred to the San Francisco postal service facilities located in the India Basin Industrial Park regardless of the Project. Some of the Project area businesses would be expected to relocate successfully within San Francisco; some which own their buildings could remain in the Project area through the owner participation program. Other businesses, especially the space-intensive warehousing, lumber, and heavy-equipment firms, may have difficulties locating suitable sites within San Francisco which are as inexpensive and as accessible as those in the Project area.

Since relocation benefits cover moves up to 50 miles, many area businesses may choose to relocate in San Mateo, Contra Costa, Santa Clara, Marin, or Alameda Counties. Relatively low-rent areas for space-intensive uses can still be found in these counties.

Some of the Project area establishments would go out of business and receive in-lieu payments. The blue-collar workers now employed by these firms would have difficulty finding equivalent employment in San Francisco; these workers might be forced to seek employment in the East Bay or South Bay areas.

The 1970 limits on relocation benefits may create hardships for businesses that must opt for in-lieu payments. These concerns would not receive full compensation if their average annual net earnings for the two years prior to displacement exceed $10,000. The limit on businesses' search expenses might not cover expenditures for those businesses who choose to move. (The San Francisco consumer price index doubled between 1970 and 1980.)

Mitigation Measures - Alternative A

Case 1 / Case 2

As required by the 1970 Uniform Relocation Act, the staff of the Redevelopment Agency would provide full allowable relocation assistance and benefits to all businesses (and residents, if applicable) that would be displaced from the Project area. The range of services would vary according to the needs of the business being displaced and would include assistance in processing relocation claims, assistance in the location of a suitable replacement site, assistance in obtaining financial needs through private lending sources, and provision of other general information to assist the business in making an informed decision relating to the move.

The Redevelopment Agency would notify businesses in the Project area that additional relocation and loan advisory assistance are available through the Mayor's Office of Economic Development, the Small Business Administration, the Economic Development Administration, Chambers of Commerce and various trade associations, lending institutions and real estate agencies.

The local offices of the Small Business Administration would be informed of the Project and requested to work with the Redevelopment Agency and eligible site occupants in extending their assistance.

Impacts - Alternative B

Case 1 / Case 2

Employment. This alternative would employ up to 7,000 workers at full buildout, 3,000 more than Alternative A./4/ Alternative B would employ four times as many white-collar workers as Alternative A, fewer service workers, and slightly fewer retail employees.

Relocation. Relocation impacts under Alternative B would be the same as for Alternative A.

Mitigation Measures - Alternative B

Case 1 / Case 2

Mitigation measures would be the same as required under Alternative A.

Impacts - Alternative C

Retention of existing low-intensity uses would mean no relocation impacts on Project area businesses.

Mitigation Measures - Alternative C

None Required.

NOTES - Business Relocaton

/1/ "Space-intensive" refers to businesses with few employees and little capital investment per square foot of building space.

/2/ Mayor's Economic Development Advisory Council; Port of San Francisco, San Francisco Department of City Planning; and San Francisco Redevelopment Agency, December 1978, San Francisco Central Waterfront Economic Adjustment Strategy (Draft).

/3/ Port of San Francisco; San Francisco Department of City Planning; and San Francisco Redevelopment Agency, August 1979, Northeastern Waterfront Survey, Tehcnical Report.

/4/ Assumes one office employee per 190 sq. ft. of space (from Williams-Kuebelbeck and Associates, Market Analyses, Northeastern Waterfront Survey) and one retail employee per 300 sq. ft. of space (Office of Planning and Research, Economic Practices Manual). Numbers are rounded upwards to include marina and maintenance workers, and the more employee - intensive service uses such as restaurants.

C. SOCIAL AND EMPLOYMENT CHARACTERISTICS

SOCIAL AND EMPLOYMENT CHARACTERISTICS SETTING

Demographics and Housing. There are no known residential uses or resident population in the Rincon Point - South Beach Redevelopment Project area. In the Rincon Point sub-area the nearest housing is the Golden Gateway apartment and townhouse complex located north of Market St., and The Embarcadero Young Men's Christian Association (YMCA), a hotel and recreational facility, located outside of the Project area, east of the Rincon Annex. The nearest housing in the South Beach sub-area is the South Park neighborhood, located at South Park Ave. and Second St.

An average of about 250 people stay in the YMCA hotel each night. Tourists comprise about 60% of the YMCA hotel guests with the other 40% consisting of permanent hotel residents, who are mostly retired senior citizens. Some residents, including a few longshoremen, have lived at the hotel for twenty years or more./1/

Institutions and Community Facilities. The major community service agency serving the Project area is the YMCA. The recreational component of the YMCA has a membership of about 2,500 persons and serves a large daytime population of persons who work in the financial district; an estimated 60% of these members live in the City./1/

Employment. Estimated total employment in the Rincon Point - South Beach Project area is between 2,490 and 2,670 persons./2/ Almost all of these workers are blue-collar manufacturing, warehousing, or other industrial employees with a few restaurant and bar employees in the South Beach sub-area. In the Rincon Point sub-area, there are approximately 2,055 employees. Almost all (about 99%) of the workers in this sub-area are employed at the Rincon Annex Post Office. The remainder are employed as parking lot attendants or are employed at the Marine Terminals Equipment Company, located on The Embarcadero, south of Howard St.

The various retail, restaurant/bar establishments, warehouses and small industrial and manufacturing businesses located in the South Beach Project area employ between 440 and 615 people. The United States Post Office employs 190 people in the area at its service facilities located on Bryant St. beween First and Beale Sts.

SOCIAL AND EMPLOYMENT CHARACTERISTICS IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

Case 1 / Case 2

The Rincon Point - South Beach Project would provide about 2,500 units of mixed-income housing. About 20% (500 units) would be subsidized low-income housing, and 30% (750 units) would be assisted moderate-income units, if Redevelopment Agency goals are achieved. These units would be primarily rental and cooperatives, with some sales units provided. The remaining 50% (1,250 units) would be market-rate rental, condominium, and cooperative units.

The 1980 median household income in the San Francisco Bay area is $23,800./3/ The low-income units would be available to families with incomes below $19,040 (80% of the median income) in 1979 dollars. Households earning $19,040 to $28,560 (80% to 120% of the median income) would be eligible for the moderate-income units. The market-rate units would be rented or purchased by families earning $50,000 (1980 dollars) or more./4/

The Project could house 500 low-income, 750 moderate-income, and 1,250 upper-income families. The total population would be about 5,000/5/, with an estimated 270 school-aged children./6/ It is not known to what extent these families would be existing San Francisco residents or new families moving to San Francisco. However, the 1,250 low- and moderate-income units included in the Project would provide housing opportunities for San Francisco residents, many of whom have low to moderate incomes.

The YMCA is not located within the Project area and would remain. The increased daytime worker population and number of permanent residents in the Project area would be expected to increase the demand for the recreational facilities at the YMCA; however, the proposed recreational open-space and marina uses included in the Project would be expected to provide the primary recreational services for Project residents and workers.

The proposed Rincon Point - South Beach Project would create a net increase of 3,760 to 3,900 permanent jobs in the Project area; approximately 75 to 240 industrial, manufacturing and warehouse jobs and a few restaurant and retail jobs would be displaced from the Project site (see also Section V.B., Business Relocation, p. 44)./7/ The majority of these new jobs would be commercial retail, office and service jobs, with a small number of industrial jobs associated with the proposed boat marina and support facilities. Because many retail stores, hotels, and restaurants provide employment for low- and moderate-income persons and minorities, the proposed Project would provide employment opportunities for persons who are currently San Francisco residents. Based on employee surveys of existing downtown commercial projects, approximately 40% or 1,560-1,600 of these new jobs would be held by San Francisco residents./8/

Mitigation Measures - Alternative A

Case 1 / Case 2

The potential effects of employment displacement from the Project area would be mitigated by the business relocation measures discussed in Section V.B, above.

Impacts - Alternative B

Case 1 / Case 2

Alternative B would provide 3,876 units of mixed-income housing, or about 55% more housing than Alternative A. About 20% (775 units) would be assisted low-income housing, and 30% (1,163 units) would be assisted moderate-income units. These units would be primarily rental and cooperatives, with some sales units. The remaining 50% (1938 units) would be market-rate rental, condominium and cooperative units.

The total residential population of Alternative B would be about 7,750 people. These residents plus the 6,760 to 6,900 new employees in the Project area would increase the demand for recreational facilities at the YMCA. The increased demand would be much greater than with Alternative A due to the 75% more workers and 55% more residents expected under Alternative B.

The new jobs created by Alternative B would be mostly white-collar office jobs. The retail commercial portions of the Project would employ retail and some service workers. No hotel workers would be employed under this Alternative. A few Marina jobs would be created as in Alternative A.

The same number of existing jobs would be displaced as under Alternative A. Based on existing downtown commercial employee distribution, about 2,800 of the 7,000 Project jobs would be held by San Francisco residents.

Mitigation Measures - Alternative B

Case 1 / Case 2

Mitigation measures would be the same as required under Alternative A.

Impacts - Alternative C

The No-Project alternative would result in social characteristics and employment conditions similar to those described in the setting section. Manufacturing and industrial jobs could be expected to continue to decline and be replaced by other types of jobs, as has occurred over the past several years in the waterfront area./9/

Mitigation Measures - Alternative C

None Required.

NOTES - Social and Employment Characteristics

/1/ B. Kroll, Executive Director; and R. Freebairn-Smith, Architect and Member of the Board of Directors, Embarcadero Young Men's Christian Association (YMCA), telephone communication, June 9, 1980.

/2/ B. Amato, Assistant Planner, San Francisco Redevelopment Agency, telephone communication, June 11, 1980; and M.C. Haug-Boone, Assistant Planner, San Francisco Redevelopment Agency, telephone communication, July 24, 1980.

/3/ San Francisco Standard Metropolitan Statistical Area (SMSA), Federal Register, July 1980, Section 8, Housing Income Limits.

/4/ Based on an average purchase price of $150,000 (1980 dollars) for market-rate units; and the federal income standard of housing affordability which states that purchase prices should not exceed 2.5 times a household's gross annual income and that housing expenses (including principal, interest, taxes and insurance) should not exceed 3 times a household's annual income.

/5/ Based on household size of 1.97 by the year 1990 as stated in Williams-Kuebelbeck and Associates, Inc., July 5, 1978, Memorandum to ROMA, Projections of Housing Demand in the Northeastern Waterfront Survey Area.

/6/ Refer to Note 5, Section V.E, Community Services, p. 66.

/7/ Port of San Francisco, San Francisco Department of City Planning, and San Francisco Redevelopment Agency, August 1979, Northeastern Waterfont Survey Technical Report.

/8/ City and County of San Francisco, May 21, 1980, Daon Building Draft Environmental Impact Report (EIR), EE 79.57, Summary of Comments and Responses, p. 41. The 40% residency estimate is an average of 4 employee surveys of downtown commercial buildings (Levi Strauss, Crocker National Bank, Federal Reserve and Hines); and 2 modelling analyses (City and County of San Francisco, February 7, 1980, 456 Montgomery Draft EIR, EE 79.178, Summary of Responses to Comments; and Metropolitan Transportation Commission MTC SCVCE model, 1975).

/9/ Mayor's Economic Development Advisory Council; Port of San Francisco; San Francisco Department of City Planning; and San Francisco Redevelopment Agency, December 1978, Central Waterfront Economic Adjustment Strategy.

D. FISCAL ASPECTS

FISCAL ASPECTS SETTING

Assessed Value and Property Taxes. The privately owned parcels in the Project area, 1.34 acres in the Rincon Point sub-area and 14.65 acres in the South Beach sub-area, have a total assessed value of $2,124,400. These parcels will yield about $105,600 in property taxes and bond repayment in 1979-80.

The Port of San Francisco owns 0.98 acres in Rincon Point and 8.15 acres in South Beach. The Port does not pay property taxes; however, any private concern which leases Port land pays to the City and County a possessory interest tax on the parcels and on any privately owned unsecured property. This tax rate is the same as the City and County property tax rate. The 1979-80 taxes will total $6,800, with an estimated $5,700 accruing to the City and County. The South Beach sub-area contains 3 parcels totaling 5.51 acres which are owned by Southern Pacific Railroad. These parcels are assessed by the State Board of Equalization at $377,100, and will yield $18,700 in property taxes and bond repayment in 1979-80. The 5.1 acres of state- and federal-owned parcels in the Rincon Point sub-area are not subject to local property taxes.

Distribution of the total property tax revenues of $131,100 to San Francisco and other affected entities is shown in Table 9, p. 50. The total tax rate is $4.97 per $100 of assessed value; $0.97 of this amount goes toward repayment of bonds approved prior to the passage of Proposition 13.

Existing development on the Project parcels includes parking lots, warehouses, and assorted commercial establishments. San Francisco collects business, payroll and sales taxes, business license fees, and parking taxes from these businesses.

TABLE 9: EXISTING 1979-80 PROPERTY TAX DISTRIBUTION
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA

	Percent	Revenue*
City and County of San Francisco	84.90	$111,300
Schools	8.07	10,600
Bay Area Air Quality Management District	0.17	200
BART	6.86	9,000
TOTAL	100.00	$131,100

* Includes $0.97 per $100 of assessed value in bond repayment. All revenues are rounded to the nearest $100.

SOURCE: "1979-80 Important Tax Information," San Francisco Tax Collector's Office.

The City provides the Project area with public services such as fire and police protection, street lighting and cleaning, and street and storm drain maintenance. The service costs attributable to individual landowners cannot be reliably quantified./1/

Redevelopment Agency Funding/2/ The San Francisco Redevelopment Agency (SFRA) was financed directly by the federal Department of Housing and Urban Development (HUD) prior to 1974. Since that time, the SFRA has received all new funding through the Community Development Block Grant Program. This program allocates federal funds to cities, which then divide the funds among several different municipal programs. The SFRA still receives federal funding, but the City of San Francisco controls allocations of funds. The fact that the SFRA is not dependent on state or local funding exempts it from the direct effects of Propositions 13 and 4. Funding may be affected if revenue losses force the City to reallocate Block Grant money to other eligible local programs. The Agency's 1980 budget totals $10 million, a 16% decrease from its 1979 budget of $11.9 million.

The SFRA can finance projects from its federal allocations or by issuing bonds. Two types of bonds are still feasible in the wake of Proposition 13: tax allocation bonds, which are repaid from the property tax increment generated by increases in the assessed valuation; and revenue bonds, which use non-property-tax revenues generated by a project to repay debt. Other Project funding sources available to the SFRA include several state and federal grant programs.

Proposition 4/3/ Proposition 4, which took effect July 1, 1980, limits state and local government spending to 1978-79 levels with adjustments for increases in the consumer price index and population. Federally funded or mandated programs, servicing of bonded indebtedness, court costs, and enterprise funds are exempt from these limits. The initiative includes methods of adjusting appropriations limits in special cases, and provides for the return of surplus funds to taxpayers. Cities such as San Francisco, with declining populations, will be affected more seriously than cities whose populations are growing. There are no provisions in Proposition 4 to increase the appropriations limit because of industrial or commercial development in a jurisdiction. The statute contains ambiguities which must be resolved before the effects of the law can be reliably assessed. The state legislature must determine population figures, inflation indices, and appropriations levels to be used as base year data. The legislature has not acted on this matter as of early June, 1980.

FISCAL ASPECTS IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

Case 1

Assessed Value and Property Taxes./4/ The Project at full buildout would have an assessed value of about $126 million (1980 dollars). This amount does not include the 400 berth harbor planned for Piers 40, 42, 44 and 46A in the South Beach area; no cost estimate has been made for this Project segment. Based on the 1979-80 tax rate, property taxes would total $5.04 million annually and would be distributed as shown in Table 10, p. 52. These revenues would be a net increase of $4.9 million over existing total property tax revenues generated from the Project sites. Net property tax revenues generated to the City and County would be $4.2 million.

Hotel Tax Revenues. Hotel room tax revenues collected in San Francisco are deposited in the City's Hotel Fund and are allocated according to City Ordinance 251-78. Proposition O, which passed in the 1980 June election, raised San Francisco's hotel tax

TABLE 10: PROJECTED PROPERTY TAX DISTRIBUTION AT FULL BUILDOUT RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT ALTERNATIVES A AND B

	Percent*	Alt. A Revenue *	Alt. B Revenue**
City and County of San Francisco	84.90	$5,316,000	$7,300,000
Schools	8.07	505,000	693,000
Bay Area Air Quality Management District	0.17	11,000	15,000
BART	6.86	430,000	590,000
TOTAL	100.00	$6,262,000	$8,598,000

* Assumes the same distribution as the 1979-80 tax breakdown.
** Includes $0.97 per $100 of assessed value in bond repayment. All revenues are rounded to the nearest $1,000.

SOURCE: "1979-80 Important Tax Information", published by San Francisco Tax Collector's Office.

from 8% to 9.75% of gross receipts. The additional 1.75% will go directly to the City's General Fund. Before the passage of Proposition O, hotel tax revenues were allocated to the City's General Fund only after certain uses specified by City Ordinance had received revenues.

The 800-room hotel planned for the Rincon Point sub-area would generate about $1.3 million annually in hotel taxes, assuming 75% occupancy and room rates of $60 per night (1980 dollars)./5/ This revenue would be distributed as shown in Table 11, p. 53.

Other Revenues. Business, payroll and sales tax revenues would accrue to the City from the Project; these revenues cannot be quantified because the specific types of commercial uses cannot be determined at this time.

Proposition Q, proposed to raise San Francisco's business tax to a maximum of $3.00 per $1,000 of sales and its payroll tax to 1.5%, appeared on the June 3, 1980 ballot; the measure was passed 55% to 45%. It has been questioned whether this margin is sufficient for passage, since Proposition 13 states that "special taxes" must be passed by two-thirds of the voters. The legal definition of a "special tax" will be tested in court in the next few months. If Proposition Q is found to be legally passed, business tax revenues from the Project would increase significantly above those based on current rates.

TABLE 11: PROJECTED HOTEL TAX DISTRIBUTION - 800-ROOM HOTEL, RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT ALTERNATIVE A

	Percent	Revenue
George R. Moscone Center Construction*	40.38	$525,000
Candlestick Park Bond Debt	5.05	66,000
Low Income Housing in Yerba Buena Redevelopment Area	5.05	66,000
Hotel Publicity Fund**	14.70	191,000
City General Fund	34.82	453,000
TOTAL	100.00	$1,301,000

* After completion of the convention center, revenues would be used for operation and maintenance of the center and payment to the San Francisco Redevelopment Agency for the ground lease.

** This is the 1979-80 percentage. Each year this fund is re-budgeted; any remaining revenues would accrue to the General Fund.

SOURCE: ESA

Commercial office and retail business in the Project would pay business or payroll tax to San Francisco. The existing 1979-80 business tax ranges from $0.90 to $2.20 for each $1,000 of gross receipts, depending on the type of business. The 1979-80 payroll tax is 1.1% of gross payroll. If Proposition Q is upheld, business establishments would pay the higher amounts to the City.

Additional sales tax revenues from the Project's retail establishments would also accrue to the City. The state tax rate is 4.75%; the state-administered City and County rate is 1.25%. An additional 0.5% would go to BART to finance operating costs. The City would thus receive about 19% of total gross sales receipts generated from the Project site.

Business, payroll and sales taxes generated from the Project site, less revenues from existing businesses at the site, would represent a net increase in revenues to the City and County of San Francisco.

Public Service Expenditures. (See also V.E, Community Services, p. 57). The Police Department would require a new patrol unit to serve the Project area at a cost of $77,000 per year. If a new patrol car is required, costs would increase by $5,500 plus $0.23 per mile./6/

Project fire protection demand may be met by the planned relocation of Engine Company 35 to Pier 22 1/2. After Project completion, the Fire Department would evaluate whether or not fire protection is adequate in the Project area. If a new company is needed, costs would be $90,000 for a new engine and $750,000 annually for personnel./7/

Costs for additional police and fire services would be financed by the City's ad valorem tax account, which receives property, payroll and business taxes. Annual Project-generated property, payroll and business tax revenues would be expected to cover the additional costs for these services.

Water supply is adequate for Project requirements; however, the water delivery system would have to be improved during Project implementation. Additional sewage collection system improvements would be necessary. The Redevelopment Agency would be responsible for providing necessary onsite and offsite water sewage system improvements to serve the Project.

San Francisco's schools have been experiencing declining enrollment in recent years, so that no capital or new personnel expenditures would be necessary to serve the Project's estimated 270 students. However, some or all of the elementary school children living in new developments would require busing at an annual operating cost of $44,600 (1980 dollars). The San Francisco School District leases its buses and does not incur capital costs for buses. Residential and commercial property tax revenues from the Project area would each increase the proportion of total school expenditures financed by the property tax.

Cost increases would be expected for agencies which provide public transit, for both new residents and Project employees. The current Muni fare deficit is $0.45 per paid passenger. Approximately 40% of this deficit is made up by City ad valorem taxes (including property and payroll taxes). The balance is made up from local, state and federal subventions. BART currently has an average deficit per trip of $1.25. The majority of this deficit is made up by revenues from the 0.5% District sales tax. No estimate of Muni or BART costs attributable to the Project is available at this time; net property, sales, payroll and hotel tax revenues from the Project would partially offset these costs.

Project Funding. The SFRA has not yet defined a detailed funding scheme for the Project. The major federal programs the Agency proposes to use for funding include, but are not limited to: Community Development Block Grants, Urban Development Action Grants, Economic Development Administration Grants, Urban Mass Transit - Joint Development Grants, and Land and Water Conservation Grants.

No detailed capital cost estimates have been made for the transportation system improvements, but it is anticipated that capital costs would be financed by state and federal funds.

There are several funding sources under consideration for the Project transportation and public transit improvements. The possible state sources are State Highway User Tax Trust Fund (distributed on the basis of population), Transportation Development Act Funds (from excess sales tax revenues), and State Article 26 Diversions (gas tax revenues available for mass transit capital improvements). The Federal Urban Mass Transportation Administration and Federal Highway Administration also have programs which are potential funding sources for some Project area transportation improvements. Local revenue sources would be responsible for operation and maintenance expenses.

Fiscal Summary. More detailed cost and revenue estimates are necessary to quantify the exact net fiscal effect of the redevelopment; however, the Project would be expected to have a beneficial fiscal effect on the City and County of San Francisco.
Project-generated revenues would be expected to cover public costs to serve the Project

including police and fire protection, and most public transit costs incurred by the Project (both capital and operation and maintenance costs). As mandated by Proposition 13, property taxes can increase by only 2% annually, with reassessment occurring if property is sold or improved. Other revenues from the large commercial segment of the Project, such as hotel tax, sales tax, and business tax, are not limited by statute and would increase with inflation. These revenue sources would help to offset the City's Proposition 13 revenue losses.

Case 2

The fiscal effects of Alternative A under the Case 2 setting would be the same as under the Case 1 setting. The removal of the Embarcadero Freeway and related transportation modifications would be financed from state or federal sources.

Mitigation Measures - Alternative A

Case 1 / Case 2

No mitigation measures are necessary.

Impacts - Alternative B

Case 1

Alternative B would have an assessed value of about $173 million (1980 dollars) at full buildout. Property tax revenues would total $8.6 million, and would be distributed as shown in Table 10, p. 52. No hotel taxes would be generated under Alternative B. Payroll and business taxes would be greatest under Alternative B, but sales taxes would be less than under Alternative A.

Service demands would be greatest with this Alternative, since 7,750 people would reside in the Project's dwelling units and 7,000 would be employed in Project businesses. These residents represent a 55% increase over the population of Alternative A; the employees would increase 75%.

Because of the greater service needs of this larger population, it is not clear whether this Project would be of fiscal benefit to the City. The loss in hotel tax would be offset somewhat by increases in property and business taxes, but increased service expenditures could exceed these revenues.

Case 2

The fiscal effects of Alternative B under the Case 2 setting would be the same as those under the Case 1 setting. The removal of the Embarcadero Freeway and related transportation modifications would be financed by state or federal sources.

Mitigation Measures - Alternative B

Case 1 / Case 2

Before implementation of Alternative B (if selected), a more detailed cost-benefit analysis should be made.

Impacts - Alternative C

If no further action is taken in the Project area, service expenditures would remain at existing levels, rising at the rate of inflation. Property tax revenues would remain as

shown in Table 9, p. 50, increasing about 2% annually for existing properties and increasing in discrete steps as current uses expand or as new developments are added.

Mitigation Measures - Alternative C

None required.

NOTES - Fiscal Aspects

/1/ R. Evans, Assistant Director, San Francisco Department of Public Works, telephone communication, March 27, 1980.

/2/ Information in this section is taken from discussions with M.C. Haug-Boone, San Francisco Redevelopment Agency; and from San Francisco Redevelopment Agency, and San Francisco Department of City Planning, August 1979, Northeastern Waterfront Survey Technical Report.

/3/ This section is based on discussions with K. Mitzman, Staff Assistant, San Francisco Controller's Office, June 5, 1980.

/4/ San Francisco Redevelopment Agency, April 7, 1980, "Rincon Point - South Beach Tax Increments," inter-office memo.

/5/ Williams-Kuebelbeck and Associates, June 1978, Market Analysis - Northeastern Waterfront Survey; and average comparable room rates in downtown San Francisco.

/6/ P. Libert, Officer, Planning and Research Division, San Francisco Police Department, telephone communications, June 4 and July 3, 1980.

/7/ R. Rose, Chief, Division of Planning and Research, San Francisco Fire Department, letter communication, July 11, and telephone communication, July 14, 1980.

E. COMMUNITY SERVICES

COMMUNITY SERVICES SETTING

Police Services./1,2/ The Rincon Point and South Beach sub-areas are located in the San Francisco Police Department's Southern District. The Southern District Station is located in the Hall of Justice at 850 Bryant St.

The Police Department divides each district into Statistical Reporting Areas ("Plots"). The Rincon Point sub-area is located within two Statistical Reporting Areas, 612 and 624. These are patrolled by radio cars; there are no foot patrols in the area. Statistical Reporting Area 612 had a total of 139 reported incidents (about 4% of the District-wide total) in the January through April, 1980 period, 13% of which were violent crimes. Statistical Reporting Area 624 had a total of 42 incidents (about 1% of the District-wide total) during the same period, one of which was a violent crime. The Southern District as a whole has an average to low crime rate.

The South Beach sub-area is located in Statistical Reporting Areas 634 and 638. These areas are also patrolled by radio cars and no foot patrols are assigned to the area. Statistical Reporting Area 634 had a total of 61 reported incidents, 8% of which were violent crimes, in the 4-month period from January through April 1980. This represents about 2% of District-wide reported incidents for that period. Statistical Reporting Area 638 had a total of 31 reported incidents for this same period; 16% of these were violent crimes. The 31 incidents represent less than 1% of District-wide incidents for that period. Both of these Statistical Reporting Areas, containing mostly industrial uses, parking lots, piers and vacant areas, experience low crime rates compared to the Southern District and to the City as a whole.

Fire Services./3/ The San Francisco Fire Department operates 3 fire stations and a fireboat which serve the areas proposed for redevelopment. The fireboat is stationed at the Firehouse located at Pier 22 1/2. Locations of the stations are:

a) Engine No. 35 at 676 Howard St. (scheduled to be closed)
b) Engine No. 8, Truck No. 8 at 36 Bluxome St.
c) Engine No. 13, Truck No. 13 and Division Chief No. 1 at 530 Sansome St.

Response time to both Project sub-areas from these stations is between 3 and 4 minutes. Beginning in August or September of 1980, Engine Company No. 35 will be stationed at the Firehouse. The fireboat provides fire services to piers and boats, pumping water directly from the Bay. Fire engines can also draw on Bay waters for fires occurring close to the Bay. Fire flows (water pressure required for firefighting) in the South Beach sub-area, however, are not considered adequate by the Fire Department for major developments.

Schools. The San Francisco Unified School District provides educational services at the elementary, intermediate and high school levels for San Francisco. Like many urban school districts, San Francisco has been experiencing declining enrollments over the last decade. Excess capacity currently exists in District schools. Total 1979 enrollment was approximately 59,000, as compared to 70,000 in 1975./4/ A study prepared for the School District recommends leasing some excess school space for periods of 20 to 40 years, rather than completely closing schools as has been done in the past. This recommendation is based on findings that, while enrollments will continue to decline until about the year 1990 (possibly to as low as 44,000), the number of students will increase by the year 2000 to pre-1990 levels./4/

There are currently no known children of school age living in the Project area.

Parks and Recreation. No parks are currently located within either of the Project sub-areas. The Justin Herman Plaza, located near the Rincon Point sub-area at the eastern end of Market St. opposite The Embarcadero, contains grassy areas, plazas and a fountain. Tourists and office workers from the Embarcadero Center and other nearby downtown offices are major users of this area. Vagrants also use the plaza as a place to loiter, although their presence is considered "tolerable" as compared to other similar sites (Civic Center Plaza and United Nations Plaza)./5/

Water Service. San Francisco receives water from the Hetch Hetchy system through the San Andreas and Crystal Springs Reservoirs in San Mateo County. The Project area is served by the University Mound Reservoir, which has a capacity of 141 million gallons. Current total water use in San Francisco averages about 89 million gallons per day (MGD).

Water delivery to the Project area is through underground water mains. An 8-in. diameter main is generally considered by the San Francisco Water and Fire Departments to be adequate for almost any development; 12-in. and 16-in. mains are preferred for water-intensive types of land uses./6/

Water service within the boundaries of the Rincon Point sub-area is provided on most streets by 6-in., 8-in., and 12-in. diameter mains. Along The Embarcadero, 8-in. and 4-in. mains run as far as Folsom St. An 8-in. main was recently installed from Folsom St. to the fireboat at Pier 22 1/2 to serve the proposed waterfront promenade, extending from the Ferry Building to Pier 24./6/

Within the South Beach sub-area, Bryant St. has no water service between First and Beale Sts., and King St. has no water service. The rest of the sub-area streets are served by 6-in. and 8-in. mains, except for The Embarcadero and Piers 40, 42, 44 and 46A, which are served by 4-in. mains.

Wastewater Service./7/ The Bureau of Sanitary Engineering of the Department of Public Works provides combined storm- and sanitary-sewer service in San Francisco. Wastewater service in the Rincon Point sub-area is provided by 8-in., 12-in., and 15-in. diameter sewer mains; the area is also served by a 2 ft. 6-in. by 3 ft. 9-in. concrete sewer in Steuart St. between Mission and Howard Sts.; a 7-ft. circular concrete sewer which runs along Howard St.; and a 7-ft. circular concrete sewer which crosses The Embarcadero to the Bay at Howard St.

The South Beach Project sub-area is served by one main varying in width from 8 to 18 inches located in First St, a 6-ft. by 7-ft. sewer located in Brannan St. between First and Beale Sts., and a 10-in. diameter sludge force main located in First and Bryant Sts. near The Embarcadero.

As part of the San Francisco Wastewater Program's Channel Outfall Consolidation Project in the waterfront area, a 17-ft. diameter collection and transport sewer was installed along the same route proposed for the rerouting of The Embarcadero./8/

The North Point Water Pollution Control Plant, which treats stormwater and sewage flows from the area, receives average dry-weather flows of 52 MGD. Existing City wastewater treatment plants are not designed to handle storm flows from rainfall greater than 0.02 inches per hour; excess flows bypass the plants and discharge directly into San Francisco Bay. Plans are presently being implemented to reduce these overflows and bring the City's sewer system into compliance with Regional Water Quality Control Board requirements. The Channel Outfall Consolidation main would reduce the number of overflows in the Project area from about 80 per year to about 10 per year./9/ This outfall consolidation Project is expected to be in operation in 1982, after completion of the Southeast Water Pollution Control Plant.

Bayside dry-weather facilities (secondary treatment) are scheduled for completion in September 1982. Dry-weather flows from the area would be treated at the Southeast Water Pollution Control Plant, which would have a dry-weather treatment capacity of 80 MGD after expansion. The North Point Plant would treat wet-weather flows until completion of the citywide wet-weather system, near the end of the decade; at that time the North Point Plant would probably be closed./10/

Solid Waste. Domestic solid wastes in the area are collected by the Golden Gate Disposal Company under contract to the City of San Francisco. Solid waste is collected daily from the Project area./11/ Wastes are taken to a transfer station north of Brisbane and then transported to a landfill site at Mountain View Shoreline Regional Park. The landfill contract with the City of Mountain View expires in 1983; no other arrangements have yet been made for disposal of San Francisco's solid wastes at the Mountain View site or any other landfill site. The Sanitary Fill Company has prepared a proposal for a Resource Conversion Center, which would be constructed south of the existing transfer station in the City of Brisbane. If this resource-recovery Project were approved and implemented, landfill material would be reduced to less than 15% of solid wastes received. The City of San Francisco is currently reviewing this proposal and several other alternatives, but no decision has been reached as of August 1980./12/

Utilities. Pacific Gas and Electric Company provides gas and electric service to the Project area. Major electrical utility lines are located in The Embarcadero, and Steuart, Howard, Folsom and Spear Sts. Gas mains and facilities are located throughout the entire Project area./13/

Pacific Telephone and Telegraph Company provides telephone services for the area. Major telephone lines are located in The Embarcadero, and Howard, Spear, Bryant, Mission and Second Sts. Other lines are located throughout the Project area./14,15/

COMMUNITY SERVICES IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

Case 1 / Case 2

Police Services. Any type of development in the Rincon Point - South Beach sub-areas would increase the types and number of crimes occurring in these areas. Construction sites would be subject to vandalism of equipment and theft of tools and materials. Auto thefts could occur from any unattended parking lots located within the areas. The rate of burglary and theft in offices, retail stores and other businesses, as well as in residences, would be expected to increase with Project implementation. Boats docking in the proposed boat marina would be subject to vandalism and burglary. The exact effects on the area crime rate would depend on detailed plans for design and construction of all components and the final density and security arrangements of the proposed developments.

The existing police protection in the Project area would not be adequate to serve the proposed development. The Police Department indicates that it would have to add either a patrol car or a foot patrol unit to the Project area after full buildout in order to provide adequate police protection. The patrol would be either by car or on foot. Two officers on a walking patrol would cost about $77,000 per year; a police car would add $5,500 plus $0.23 per mile to this cost (see Fiscal Aspects, Section V.D, p. 50)./1/

Fire Services. The Project would create additional demand for fire protection services which may be met by the planned relocation of Engine Company 35 to the Firehouse./16/ If this level of service proved to be inadequate once the Project was complete, an additional engine and engine company (14 firefighters) would be needed./17/ Project-generated revenues to the City and County would be expected to cover the capital and annual operating costs of providing an engine and engine company, if required. The Fire Department's high pressure system is located within one block of the Rincon Point sub-area, near Market St. The Fire Department may recommend that the system be expanded to loop around the block containing the Rincon Annex building.

Because water delivery capability for fire flows is not adequate in the South Beach sub-area, some water mains would need to be enlarged or replaced. Existing 4-inch mains, some of which serve Piers 40, 42, 44 and 46A, would have to be enlarged and looped, as would lines which now terminate at The Embarcadero. Adequate fire flows could be provided by a new main along the proposed Embarcadero route from Main St. to Third St. (see Water Service discussion, below).

Fire flow requirements and main sizes and locations would be determined when specific design plans were developed. All structures would comply with Building and Fire Code requirements. All offsite water system improvements required to provide adequate fire service for the Project would be provided by the Redevelopment Agency.

Schools. A total of about 270 school-age children would live in the Project (130 elementary, 45 intermediate, and 95 high school)./18/ It is assumed that all children would enter the school system at full Project buildout in 1990 although entry would probably occur over several years as housing units are developed.

The elementary-age children would attend Bessie Carmichael Elementary School at 55 Sherman St., about 8 blocks from the western boundary of both sub-areas. Space would probably exist for the children at this school,/4/ but if it did not, some children could be bused to the nearest school with remaining capacity. The San Francisco School District rents buses from the Associated Charter Bus Company. The 1980-81 rate will be about $200 per day per bus./19/ Buses hold about 70 children. Up to 2 buses per day would be required to bus the estimated 130 elementary students living in the proposed development (see Fiscal Aspects, Section V.D, p. 50).

Intermediate and high school students would attend Potrero Hill Junior High School and Mission High School, respectively. It is expected that space would be available for all students from the Project./4/ Potrero Hill Junior High School, located at 655 De Haro St., is about 12 blocks from the southern boundary of the South Beach sub-area. Mission High School is located at 3750 18th Street, about 16 blocks from the southern boundary of the South Beach sub-area. Intermediate and high school students would be expected to provide their own transportation to school./4/

Parks and Recreation. The Project would include two new parks near the waterfront, totaling 13.5 acres. Recreational demand would be generated by residents, employees and others in the area. The parks would thus meet some of the recreational demand from the Project.

A 6.5-acre park would be located in the Rincon Point sub-area. The park would adjoin the proposed promenade extending from the Ferry Building to Pier 24 along the waterfront, with the park covering what is now The Embarcadero. The park would extend from Steuart St. to Folsom St. and be separated from other redeveloped portions of the Rincon Point sub-area by the rerouted Embarcadero. Some provision for crossing The Embarcadero would be necessary to allow safe access to the park or commercial area. Preliminary plans for this park call for recreational

facilities oriented to residents rather than tourists. However, because of the location's proximity to the proposed promenade and Embarcadero Center, as well as to the proposed hotel, downtown and Project workers and tourists would be expected to use the park. The park could also be expected to attract vagrants, although this would not be a major problem./5/

The 7-acre park proposed for the South Beach sub-area, extending from King St. to the China Basin, and from the waterfront to Second St., would serve Project area residents and employees. Tourists and vagrants would be unlikely to frequent this park. The park would be separated from housing and other uses in the South Beach sub-area by the rerouted Embarcadero; provision of safe access for residents, particularly children, would be necessary.

Recreation would also be provided by the proposed 400-berth marina and support facilities in the South Beach sub-area. Project as well as other Bay Area residents would be expected to use the proposed marina.

Water Service. Total average water use in the Rincon Point and South Beach sub-areas combined would be about 0.8 million gallons per day (MGD), about 0.9% of the Citywide total; the Water Department can provide this amount of water (see Appendix B for Projected water use by land use)./20/ Project water use would be a net increase over current use since the resident and employee populations after redevelopment would be much greater than the existing population. Water supply in San Francisco is not a problem except during periods of drought./20/

After Project completion, water use in the Rincon Point sub-area would average about 0.3 MGD or 0.3% of the Citywide total. Existing mains in this area would be able to serve most of the sites after completion of the Project./21/ Should Folsom, Mission and Steuart Sts. be closed to through traffic in the Rincon Point sub-area, easements may have to be granted to the Water Department (and other utility agencies) in order to maintain the existing network of water (and other utility) distribution systems on these streets./22/ There are two alternatives to granting easements. The less expensive alternative is laying new mains in unaffected streets to replace mains under vacated streets. The old mains would be capped and could then be removed or abandoned. A more costly method is to relocate existing mains to unaffected streets. If an easement through the planned park were to be granted, the portion of the main under the park would be encased in concrete and no service would be provided from this portion.

Average water use in the South Beach sub-area after redevelopment would be about 0.5 MGD, 0.6% of the Citywide total. To provide required fire flow capability and domestic water service, about 4,500 ft. of water main (12 in. maximum) would have to be installed in the South Beach sub-area./21/ New mains would be needed and alternate water service routes developed if certain existing dead-end mains had to be abandoned. New service would also be needed if crossings are not located in the newly-installed storage and transport sewer. The proposed closure of Beale, Townsend, First, and Fremont Sts., and other area streets, could require rerouting of water service mains. Mains located under the proposed park would be removed, abandoned or encased in concrete. The 6-in. main in The Embarcadero which serves piers 40, 42, 44, and 46A east of the proposed park could remain to serve the proposed boat marina and marina support uses.

The Redevelopment Agency would be responsible for securing all necessary easements and for providing any required onsite and offsite water system improvements to serve the Project area.

Wastewater Service. Average wastewater flows from both sites would be about 0.7 MGD, 0.3 MGD for the Rincon Point sub-area and 0.4 for the South Beach sub-area (see Appendix B for Projected wastewater generation by land use). Project flows would represent a net increase over current flows. Existing sewer mains could serve both Project sub-areas after redevelopment. Treatment capacity would be available at the North Point Water Pollution Control Plant for dry-weather flows until work is completed to route flows from the area to the Southeast Water Pollution Control Plant in 1982. The recently installed 17-ft.-diameter transport and storage main would collect all liquid wastes from both sites./8/

The proposed Project would not contribute to excess overflows of untreated sewage and storm flows into the Bay (and ocean) because the Channel Outfalls consolidation Project would be fully implemented before Project completion.

Rights-of-way or easements would be required on streets which may be closed in the Rincon Point sub-area. Easements would also be required for streets containing sewers which may be closed in the South Beach sub-area. Alternatives to obtaining easements would be relocation of mains, extension of mains from other streets which would not be closed, or private ownership of mains in streets proposed for closure./8/

Solid Waste. After redevelopment, the Project area would generate about 22.2 tons of solid waste per day./23/ Project waste would represent a net increase in the amount of solid waste collected in the area. The Golden Gate Disposal Company anticipates no problem providing additional collection./11/

Utilities. Telephone, electrical and gas service to the Project area could be provided by the private utility companies. Vacating utilities in smaller streets and under portions of the proposed park areas would be necessary./15/ Gas mains would be capped, and cables would be removed with conduits left in place./24/ The area contains very few overhead lines; there are no plans by the utility companies to alter those that exist./15/ However, the Redevelopment Agency would place the lines underground as part of the Project. Lines in streets that might be closed would require easements to preserve the existing network systems. If easements were not granted, installation of new lines or relocation of existing lines would be necessary.

The Embarcadero is under the jurisdiction of the Port of San Francisco Commission. It contains major utilities of every type and provides an important link in the distribution system of nearly all utilities./22/ Replacing some existing uses with parks and closing streets which intersect the existing Embarcadero would necessitate relocation or rerouting of some service lines unless easements are granted.

Mitigation Measures - Alternative A

Case 1 / Case 2

The Redevelopment Agency would require each Project developer to incorporate the following measures into his or her development proposals, as appropriate or feasible:

Police

- Include burglar alarms as part of the design in all structures.

- Design all structures as secure buildings with controlled access, security staff, and camera monitors where appropriate.

- Design lighting and landscape plans to maximize visibility, particularly around entryways.

- Develop attended parking lots rather than self-park and -lock facilities.

- Meet with a representative of the Police Department's Crime Prevention Unit to obtain recommendations for security measures, applicable to individual development proposals. Recommended measures would be incorporated into design plans.

Fire

- Meet with the Fire Department to obtain specific fire safety and prevention measures for incorporation into specific design plans.

Schools

- None Required. The San Francisco Unified School District indicates that there would be available classroom capacity and that it would not require any additional staff or equipment to serve school children from the proposed Project. Should additional buses be required, Project generated revenues are expected to cover those costs.

Water Service

- Install native, drought-resistant vegetation in all park and landscaping areas to reduce watering requirements.

Wastewater

- Install low-flow fixtures to reduce the amount of wastewater generated by new structures.

Solid Waste

- Provide storage space for recyclable materials in all housing to encourage recycling activities.

- Include compaction facilities in the design of office and commercial buildings.

Parks and Recreation

- Coordinate with the Bureau of Traffic Engineering to provide traffic signalization and other safety features along routes from residential areas to park areas and where feasible, to schools, to allow safe access by children.

- Separate housing by fencing or other barriers from open major roadways, such as The Embarcadero.

- Install guard rails or other barriers between open water and areas where children might play without supervision.

As part of the Project design, the Redevelopment Agency would include plans for eating and sanitation facilities for the users of the marina as well as others who come to observe the boats and use nearby recreation facilities. This would prevent inconvenience to marine and recreation area patrons.

All building design and construction would be required to conform with all applicable City of San Francisco fire, life and safety codes, including installation of sprinkler, alarm, annunciator and emergency power systems as required.

California law requires installation of low-flow water fixtures in all new structures. The Project would be required to conform to this law (Section 17921.3, Health and Safety Code).

The San Francisco Department of Public Works and Water Department would grant easements and/or right-of-way over existing water mains, sewers and utility lines wherever feasible, to reduce the need for installing new facilities or for relocating existing ones.

The Redevelopment Agency would be responsible for providing all offsite and onsite improvements that would be required to provide adequate water and sanitary sewer service to the Project area. Water system improvements would have to meet the fire flow requirements of the San Francisco Fire Department.

Impacts - Alternative B

Case 1 / Case 2

Police. Alternative B would probably result in less of a demand for police services in the Rincon Point sub-area than under Alternative A, because of the elimination of the hotel and reduction in the number of housing units. Demand for police services in the South Beach area would be greater under Alternative B because of the higher number of housing units. The overall Project demand for police protection would be greater than under Alternative A due to the 3,000 additional workers and 2,750 additional residents.

Fire. Demand for fire protection services under Alternative B would be greater than with Alternative A because of the higher density of the development. An additional fire truck would be more likely to be needed than under Alternative A.

Schools. About 417 school-age children would be expected to live in the two sub-areas under Alternative B: 202 elementary, 72 intermediate, and 143 high school students. This would be 147 more students than expected under Alternative A. Capacity would exist to serve the students in schools closest to the sites. In addition to the 1 or 2 buses which may be needed under Alternative A, up to 2 more buses could be needed for transporting students under Alternative B.

Parks and Recreation. Alternative B would have impacts similar to Alternative A, essentially in meeting the recreation demand created by the Project.

Water. Water use under Alternative B is Projected to average 1.0 MGD, an 0.2 MGD increase over Alternative A. Recommended water main changes for Alternative A could provide this amount of water. Other impacts would not differ from Alternative A. See Appendix B.

Wastewater. Wastewater generation under Alternative B is Projected to average less than 1.0 MGD, an increase of about 0.2 MGD over Alternative A. This increase would not cause the impacts of Alternative B to differ from those of Alternative A.

Solid Waste. Under Alternative B the two sub-areas would generate about 28 tons of solid waste per day, 5 tons per day more than under Alternative A. More collection trips might be necessary under Alternative B, but disposal impacts would be the same.

Utilities. While use patterns and amounts would be different from Alternative A, relocation, removal and/or installation of utility lines and mains would be the same under both alternatives.

Mitigation Measures - Alternative B

Case 1 / Case 2

Mitigation measures would be the same as required under Alternative A.

Impacts - Alternative C

Public service demand would grow at its current rate without Project implementation.

Mitigation Measures - Alternative C

None required.

NOTES - Community Services

/1/ P. Libert, Officer, Planning and Research Division, San Francisco Police Department, telephone communications, June 4 and July 3, 1980.

/2/ San Francisco Police Department, Incidents for Which a Police Report Was Made, by District, Plot and Crime, for January through April, 1980.

/3/ R. Rose, Chief, and E. Calmineri, Captain, San Francisco Fire Department, telephone communications, June 4, 5, and 13, 1980.

/4/ R. Walker, Manager, Student Assignment Office, San Francisco Unified School District, telephone communications, June 13 and 16, 1980; and H. Weeks, February 1, 1980, (rev. Feb. 29, 1980), San Francisco Unified School District Enrollment Projection Year 2000 to 2020.

/5/ M. McKevitt, Captain, Southern Station, San Francisco Police Department, telephone communications, June 18 and 20, 1980.

/6/ San Francisco Water Department, Utility Maps, Northern Waterfront Survey Area, undated.

/7/ San Francisco Department of Public Works, Utility Maps, Northern Waterfront Survey Area, undated.

/8/ J.M. Dela Cruz, Division Chief, and M. Francies, Engineering Associate II, San Francisco Wastewater Program, personal interviews, June 18, 1980.

/9/ R. Chin, Superintendent, North Point Water Pollution Control Plant, telephone communication, February 20, 1980.

/10/ D. Hayashi, Coordinator of Public Participation, San Francisco Wastewater Program, telephone communication, March 7, 1980.

/11/ F. Garbarino, Office Manager, Golden Gate Disposal Company, telephone communication, June 4, 1980.

/12/ Resource Conversion Center, Final Environmental Impact Report, Environmental Science Associates, Prepared for the City of Brisbane, California, June 1980, State Clearinghouse Number 79051401.

/13/ Pacific Gas and Electric Company, Utility Maps, Electric Underground and Gas Mains, Northeastern Waterfront Survey Area, undated.

/14/ Pacific Telephone and Telegraph Company, Utility Maps, Northeastern Waterfront Survey Area, undated.

/15/ W. Dougherty, Engineer, Pacific Telephone and Telegraph Co., telephone communication, June 17, 1980.

/16/ R. Rose, Chief, Division of Planning and Research, San Francisco Fire Department, letter communication, July 11, 1980.

/17/ R. Rose, Chief, Division of Planning and Research, San Francisco Fire Department, telephone communication, July 14, 1980.

/18/ The San Francisco Unified School District does not provide estimates of the number of school age children per household. Estimated number of students for the Project were derived from City and County of San Francisco, Department of City Planning, Final Environmental Impact Report: Yerba Buena Center, EE 77.220, January 6, 1978, p. 308. Students-per-household factors used are: low- and moderate-income housing units: 0.2 based on actual distribution in Western Addition subsidized housing adjusted for the higher density of the Project; and market-rate housing units: 0.015 (based on actual student population and distribution at Golden Gateway apartments).

/19/ D. Gardner, Transportation Supervisor, San Francisco Unified School District, telephone communication, June 16, 1980.

/20/ C. Wentworth, Engineer, San Francisco Water Department, telephone communication, March 18, 1980.

/21/ J. Cooney, Engineer, San Francisco Water Department, telephone communication, June 18, 1980.

/22/ S. Zeller, Mechanical Engineer, San Francisco Port Commission, personal interview, June 19, 1980.

/23/ California Solid Waste Management Board, July 1974, Solid Waste Generation Factors in California.

/24/ L. Cordner, Engineer, San Francisco Division, Pacific Gas and Electric Co., telephone communication, June 18, 1980.

F. TRANSPORTATION

TRANSPORTATION SETTING

The Rincon Point and South Beach sub-areas, south of Market St. and bordered by The Embarcadero and the waterfront, are separated by approximately three blocks. Rincon Point, the smaller area, has over 91% of its existing developed floor area in office use. The South Beach sub-area, with roughly the same amount of developed floor area, has 27% in office use, with the remainder primarily devoted to industrial and warehouse uses; maritime uses occupy about 40 acres of the sub-area. Generally, office uses have a higher rate of trip generation than the other uses.

Current Trip Generation. Trip generation rates per unit of existing Project area land uses are shown in Table 12, p. 69. These rates were used to estimate the current number of trips generated (see Table 13, p. 71). The Rincon Point sub-area, with 38% of the area of the South Beach sub-area, generates 60% as many person-trips per day. Combined, the two sub-areas generate approximately 14,600 one-way trip-ends (7,300 round trips) daily.

Trip Distribution. Trips are made by private vehicle, public transit, or, in the case of the warehouse and maritime areas, by truck. Over 50% of the person-trips for Rincon Point and about 38% of the person-trips for South Beach are via public transit. Of the nearly 14,600 total trips daily for the two sub-areas, about 38%, or approximately 5,500, are made by automobile. Of the current daily auto trips, roughly 4,000 begin or end in the East Bay, the Peninsula or the North Bay; most remaining trips begin or end within San Francisco (see Table 14, p. 73). All trips affect the street network in the Project vicinity.

Existing Transportation Facilities. The transportation system in the Project area consists of a network of streets, freeways and parking facilities for private vehicles and buses, as well as a variety of transit modes (including rapid rail, light rail, diesel bus and ferry boat lines) and their associated transfer terminals. The existing street grid provides access to adjacent land uses and serves as a collector for the distribution of traffic to major arterials and freeways (see Figure 11, p. 68). This basic grid is complicated by numerous short local streets, and by the odd-angled intersections restricting access to streets north of Market St.

The Embarcadero serves as a beltway along the waterfront providing regional access and internal circulation to the Project area. Between 15,000 and 18,500 vehicles per day travel the portion of The Embarcadero in the Project vicinity. The Embarcadero, connecting with Broadway and Bay Street to the north, is the most direct access to northern San Francisco and the North Bay counties. To the south, The Embarcadero provides access to southeast San Francisco via Third and Fourth Streets. Interstates 80 and 280 provide regional access to the East Bay and the Peninsula. Connections to these freeways in the Project area are at Mission, Harrison and First Sts.

The Embarcadero Freeway, a double-decked elevated structure, passes through the Project area. Approximately 71,000 vehicles per day use the Embarcadero Freeway. Most of these have origins and destinations outside the Project area, including such locations as the Financial District, Golden Gateway, and North Beach.

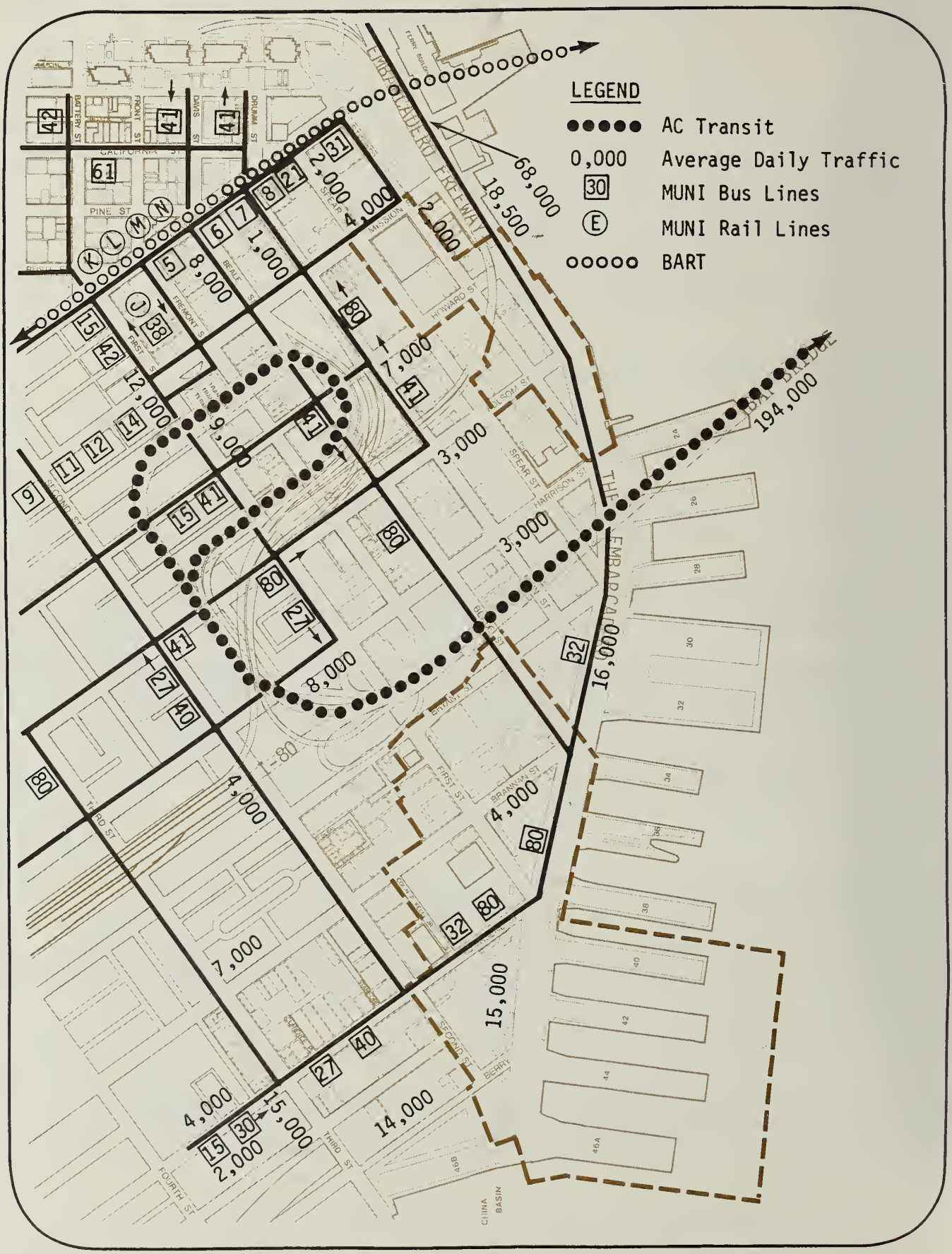


FIGURE 11
EXISTING TRAFFIC VOLUMES AND TRANSIT LINES
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA

TABLE 12: TRIP GENERATION RATES /1/
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT

Land Use	TE Unit /1/	Daily Person Trips/Unit (TE) /2/	AUTOMOBILE Occupancy Per Vehicle	AUTOMOBILE Daily TE	TRANSIT /9/ % Mode Split	TRANSIT /9/ Daily TE
Office	1,000 sq ft./3/	14.0 /7/	1.3 /4/	4.9	53 /4/	7.4
Retail	1,000 sq ft./3/	30.0 /8/	3.0 /8/	6.0	40	12.0
Restaurant	1,000 sq ft./3/	70.0 /8/	3.0 /8/	15.2	35	24.5
Hotel	Room	7.5 /5/	1.5 /5/	3.0	40	3.0
Marina	Boat Slip	2.5 /8/	2.5 /8/	0.8	20	0.5
Warehouse/ Industrial	Acre	170.0 /5/	1.3 /5/	85.0	35	59.5
Maritime	Acre	65.0 /5/	1.3 /5/	32.5	35	22.0
Residences	Dwelling Unit	7.5 /6/	1.5 /5/	2.8	45	3.4

/1/ Transit and auto travel only, walking and bicycle trips excluded. Trips are expressed as Trip Ends, abbreviated TE.
/2/ First or primary destination trips only.
/3/ Gross Floor Area.
/4/ U.S. Census 1970, Journey to Work average for San Francisco C.B.D.
/5/ CalTrans, District 4, "Progress Reports on Trip Ends Generation Research Counts" 1965-1979.
/6/ Ibid, Residential trip generation rates modified to reflect average household size in San Francisco, based on U.S. Census 1970.
/7/ EIR, "Howard and Main Office Building, San Francisco" EE 74.140, 1975.
/8/ (Pier 39 DEIR) - Draft EIR "Proposed North Point Park/Marina, San Francisco" EE 75.368, Volume 2, 1976.
/9/ Assumes improved Waterfront transit service.

During the Northeast Waterfront Survey, figures were developed for existing traffic volumes on the Project area street network (see Figure 11, p. 68). The number of trips generated by each land use is shown in Table 13, p. 71.

The Rincon Point site is served by a variety of transit modes. The number 32 bus route runs along The Embarcadero and the 9, 11, 12, and 14 lines operate along Mission St., terminating at the foot of Mission. The Embarcadero Station, with MUNI Metro service and BART service to the East Bay and to Daly City, is two blocks away. The Golden Gate Ferry Terminal, with ferry service to the North Bay, is two blocks away. The Transbay Terminal on Mission St. between First and Fremont Sts. is a transfer point for MUNI service and for AC Transit service to the East Bay, and is four blocks from the Rincon Point sub-area. Transit service is not readily available in the South Beach sub-area. Existing transit lines are shown in Figure 11, p. 68.

FIGURE 12
EXISTING PARKING AND TRANSIT TERMINALS
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA

TABLE 13: TRIP GENERATION BY EXISTING LAND USE TYPE, RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA

Sub-Area	Land Use	Use Area	Person TE*	Transit TE*	Vehicle TE*
Rincon Point	Office	560,000 sq. ft.	7,840	4,155	2,835
	Restaurant	5,600 sq. ft.	392	137	85
	Industrial/ Warehousing	1.2 acres	204	71	102
	Rincon Point Subtotal		8,436	4,363	3,022
South Beach	Office	150,000 sq. ft.	2,100	1,113	760
	Industrial/ Warehousing	8.7 acres	1,483	519	742
	Maritime	40 acres	2,600	910	1,300
	South Beach Subtotal		6,183	2,542	2,802
TOTAL			14,619	6,905	5,824

* TE - Trip Ends

A substantial supply of off-street parking exists in the vicinity of the Project area. Parking lots near the Ferry Building and Agriculture Building contain approximately 255 spaces; privately operated parking lots south of Mission St. contain another 436 spaces open to the public. Pier 7 is used for parking, as is the space beneath the Embarcadero Freeway. The nearby Financial District has a high demand for parking but a short supply of spaces, at high prices; that shortage, and the proximity of lower cost parking spaces in the Project area, results in heavy use of the Project area parking by downtown employees. The locations of nearby off-street parking areas are shown in Figure 12, p. 70.

Transit System. Several transit studies considered improvements for the waterfront area; studies most pertinent to the proposed Project are the MUNI 5 Year Plan and the Northeastern Waterfront Survey (NEWS) Transportation Element. The changes proposed by the MUNI 5 Year Plan, as recently approved by the San Francisco Board of Supervisors, would consist primarily of improvements in bus service. The NEWS Transportation Element developed a comprehensive strategy for transit services for the waterfront area; a key element is a waterfront transit service corridor along The Embarcadero. The NEWS Transportation Element is fully consistent with the MUNI 5 Year Plan. See also Figure 13, p. 72.

Parking. The NEWS Transportation Element developed a parking plan to serve the waterfront. The NEWS parking plan proposes providing all-day parking in intercept parking facilities and converting close-in spaces to short-term parking. The plan also proposes providing accessory parking specifically for new land uses. Under the NEWS parking plan, up to 1,600 spaces could be developed on the intercept parking sites located under the Bay Bridge and the stub-end of Interstate 280 to serve long-term parking.

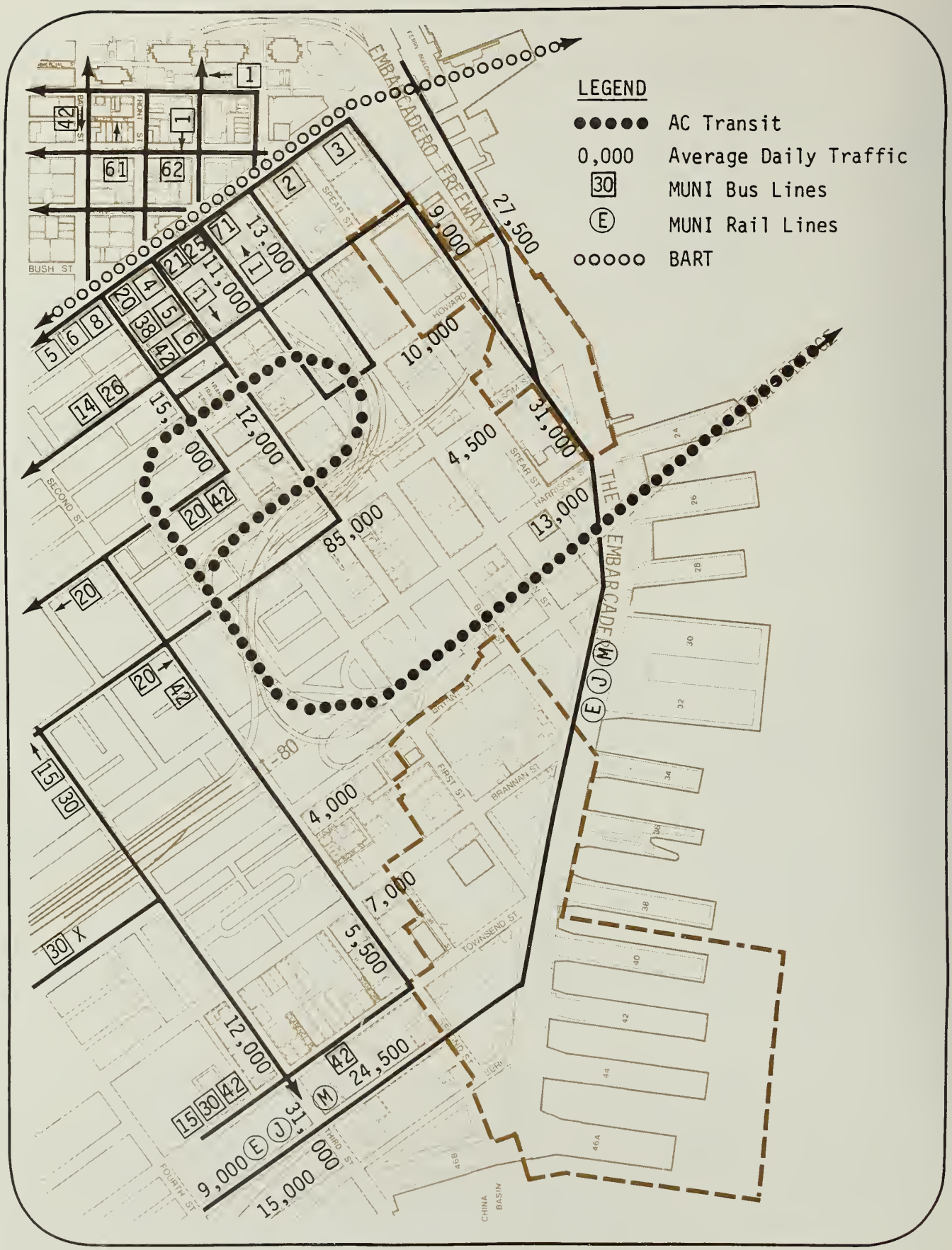


FIGURE 13
PROJECTED TRAFFIC VOLUMES AND PROPOSED TRANSIT ROUTES
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA
ALTERNATIVE A

TABLE 14: TRIP ORIGIN - DESTINATION DISTRIBUTION
NORTHEASTERN WATERFRONT AREA*

Distant Origin/Destination	Percent of All Trips by Land Use Type					
	Office / Industrial / Warehouse**		Retail / Restaurant / Hotel***		Residential / Recreational****	
	Auto	Transit	Auto	Transit	Auto	Transit
San Francisco						
Central	1	9	5	21	10	38
Marina & Northeast	10	18	16	20	22	17
Richmond	6	11	9	12	13	10
Twin Peaks & Sunset	9	16	15	19	20	16
Mission/ Hunters Point	3	7	5	6	6	6
San Francisco Total	29	61	50	78	71	87
East Bay	31	15	22	8	13	8
Peninsula	20	14	13	7	5	4
North Bay	20	10	15	7	11	1
TOTAL	100	100	100	100	100	100

* Excludes Pedestrian and Bicycle Trips.
** Sources: EIR, "Howard and Main Office Building, San Francisco" EE 74.140, 1975; and 1970 U.S. Census Journey to Work Data.
*** Estimated by Wilbur Smith Associates Based on Regional Population Distribution.
**** Estimated by Wilbur Smith Associates, based on 1970 U.S. Census Journey to Work Data for Selected Tracts in San Francisco.

TRANSPORTATION IMPACTS AND MITIGATION

Impacts - Alternative A

Case 1

Under Alternative A, new development would replace the existing land uses. A hotel, retail uses and a total of 2,495 residential units would be built and the amount of floor area in office use would be reduced to 280,000 sq ft. A net increase in person-trips would result. These new trips would use an improved transit system, and a street network which may be modified by closures and realignments which are a possible part of the Project.

TABLE 15: NET CHANGES IN TRIP GENERATION
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVE A

Land Use	Net Change in Use	Net Change - Trip Generation Person TE	Vehicle TE	Transit TE
RINCON POINT SUB-AREA				
Office	-280,000 sq ft.	-3,920	-1,417	-2,078
Retail	+112,000 sq ft.	+3,360	+672	+1,344
Residential	+530 Units	+3,375	+1,457	+1,789
Hotel	+800 Rooms	+6,000	+2,400	+2,400
Restaurant	-5,600 sq ft.	-392	-85	-137
Warehouse	-51,000 sq ft.	-204	-102	-71
Park	+6.4 Acres	+384	+176	+37
RINCON POINT TOTAL		+8,603	+3,101	+3,284
SOUTH BEACH SUB-AREA				
Office	-143,600 sq ft.	-2,010	-727	-1,065
Retail	+267,700 sq ft.	+8,031	+1,606	+3,212
Residential	+1,965 Units	+14,737	+5,403	+6,632
Restaurant	+0 sq ft.	+0	+0	+0
Warehouse	-290,000 sq ft.	-1,139	-568	-399
Park	+7 Acres	+420	+190	+40
Marina	+400 Slips	+1,000	+320	+200
Maritime	-30 Acres	-1,950	-975	-682
SOUTH BEACH TOTAL		+19,089	+5,249	+7,938

Trip Generation Due To New Development. Changes in trip generation would result from the proposed land use changes under Alternative A; the net changes in daily trips are presented in Table 15. Approximately 28,100 new one-way trips daily of all types would result - about 8,600 for the Rincon Point sub-area and slightly more than 19,000 in the South Beach sub-area. Transit patronage would increase by more than 11,200 trips daily with private vehicle use increasing by over 8,300 trips daily. The origin-destination patterns of these new trips are assumed to be the same as the existing patterns shown in Table 14, p. 73; about 30% of the auto trips would originate or end in San Francisco; the rest would originate or end at North Bay, East Bay, and Peninsula locations.

Street Network. As part of the proposed Project, changes may be made in the existing street network. In the Rincon Point sub-area, The Embarcadero would be rerouted along Steuart St. between Howard and Harrison Sts. The new alignment would become the principal north-south street in the Rincon Point sub-area; its intersections with Howard, Folsom and Harrison Sts. would remain open to provide access to the west. The existing roadway of The Embarcadero would be converted to a park between Howard and Harrison Sts. Other street closures may occur at Mission St. between The Embarcadero and Spear St., and at Steuart St. between Mission and Howard Sts. In the South Beach Project sub-area, the principal north-south streets would be Second St. and The Embarcadero, connecting to Third St. via King Street. The principal east-west streets would be Bryant and Brannan Sts. Portions of other streets in the South Beach sub-area may be closed and incorporated into the Project (see also Figure 5, p. 16).

Regional Access. The San Francisco - Oakland Bay Bridge, the Embarcadero Freeway, US 101, Interstates 80 and 280 and their associated interchanges are regional facilities which would be affected by the Project. Based on the Projected origins and destinations of Project-related trips, it is anticipated that several thousand vehicle trips per day would be added to present traffic loads on the Embarcadero Freeway. In view of the displacement of existing industrial uses with proposed office and residential uses, a larger proportion of the vehicle trips generated by the proposed Project would occur during peak commute hours. Traffic generated by the proposed Project would create additional congestion and delay during commute periods.

Several interchanges for Interstate 80 and the Embarcadero Freeway are located in the Project vicinity. The interchange closest to the Rincon Point sub-area is the Beale-Main St. couplet. The First-Fremont St. couplet is closest to the South Beach sub-area. The Project would add an estimated 5,800 and 2,500 daily vehicle-trips from the Rincon Point and the South Beach sub-areas respectively to these two ramp couplets. For peak hour commute traffic of 10% of average daily traffic volumes, the Project would generate approximately 580 and 250 peak hour vehicle-trips respectively on the Beale-Main and First-Fremont couplets. Ramp capacity is some 1,200 vehicles per hour; peak hour traffic from the Project would constitute some 48% and 21% of capacity at these two interchanges, respectively. Peak hour traffic congestion on the freeways and ramps would extend to Downtown streets, affecting the level of local traffic circulation service.

Local Access. The proposed street closures and resulting limits on private vehicle use would affect the accessibility of portions of the Project sub-areas by different transportation modes. The nature of these street modifications and their projected traffic impacts are listed in Table 16, p. 76. Street closures in the Rincon Point sub-area would affect local access to several businesses bordering the proposed Project. More street closures may be made in the South Beach sub-area; the closed streets may become an integral part of the internal access and circulation system of the sub-area.

Traffic Circulation. The proposed changes would involve only surface streets; however, traffic circulation impacts would occur both on freeways and the local street system. Traffic impacts would probably affect the following freeway ramps:

I 280 off-ramp at 4th and Berry;
Bay Bridge off-ramp at Fremont and Harrison;
Bay Bridge on-ramp at First and Harrison, Essex and Harrison;
Bay Bridge off-ramp at Main and Mission; and
Bay Bridge off-ramp at Beale and Mission.

TABLE 16: LOCAL TRAFFIC ACCESS IMPACTS
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVES A AND B

Street	Nature of Modification	Probable Traffic Access Impacts
Mission	Develop a transit - pedestrian mall between Spear and Steuart	Eliminate private vehicle passenger drop-off to Southern Pacific Offices at Mission Street
Steuart	Develop Muni light rail subway surface "breakout" facility at Mission and Steuart; limit Steuart between Mission and Howard to light rail vehicle operation	Eliminate vehicle access to existing businesses on the east side of Steuart; commercial deliveries made to these businesses would have to use The Embarcadero.
The Embarcadero	Develop a public park by closing The Embarcadero between Howard and Harrison	No impact on vehicle access because existing businesses would be displaced by a public park.
Beale	Close Street between Bryant and Brannan	No impact on vehicle access because existing buildings and businesses would be displaced by new developments with planned site access.
Fremont	Close street between Brannan and The Embarcadero	Same as Beale
First	Close street between Bryant and The Embarcadero; Brannan through traffic flow would be maintained	Same as Beale
Collin P. Kelly Jr.	Close street between Brannan and Townsend	Same as Beale
Townsend	Close a part of the street between Second and The Embarcadero	Vehicle access to Japan St. Warehouse would be maintained.
Second St.	Close street between Berry and King	Same as Beale
Berry	Close street between The Embarcadero and Second	Same as Beale
The Embarcadero	Close street between King and Berry	Same as Beale

TABLE 17: EXISTING AND FUTURE TRAFFIC VOLUMES
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVE C

	-- EXISTING TRAFFIC --			ALTERNATIVE C
		-- Site Traffic --		Future
Street	Existing ADT*	Number	As % of Existing ADT*	Case 1 1990 ADT*
Fremont				
S. of Mission	9,000	108	1.2	11,000
Harrison				
E. of First	3,000	305	10	12,000
Brannan				
E. of Third	4,000	974	24	4,000
Second				
S. of Bryant	3,000	566	19	4,500

* ADT: Average Daily Traffic

The proposed street closures would affect primarily the north-south streets along the shoreline and would not affect the continuity of major thoroughfares carrying large volumes of through-trips. The north-south streets intersecting with The Embarcadero are low volume and are primarily used by commercial vehicles serving surrounding industrial uses. As many of these industrial uses and associated vehicle-trips would not remain, traffic diversions from the proposed street closures would be minor. The Embarcadero and most of the area's high capacity east-west streets would remain open.

With no increase in the carrying capacity of downtown streets, and no proposed construction of new streets, the additional cumulative person-trips generated by the proposed Project and by other developments would result in lower levels of traffic service and increased traffic congestion and delays. Changes in traffic conditions as a result of the proposed Project were estimated for four selected major streets (see Tables 17 and 18, pp. 77 and 78). Of these streets, both Fremont and Brannan would experience an increase in the percentage of traffic from the Project area. On the other selected streets, the proportion of the traffic load from the Project would be reduced.

Traffic from the proposed Project would affect the level of service at nearby intersections. The practical upper limit for street capacity in urban areas is defined as "Level of Service D"; traffic volumes exceeding this level result in conditions unacceptable to most drivers. Four selected intersections were analyzed to determine changes in volume-capacity ratios, referenced to Level of Service D, as a result of the proposed Project (see Tables 19 and 20, pp. 78-79).

The Embarcadero, with its alignment and intersection geometries modified as proposed, would maintain its continuity and function at an acceptable service level. Except for a few intersections, such as King and 3rd, which would approach capacity, the modified road system, in conjunction with an improved transit network, would operate at satisfactory levels of service and traffic safety after development of the Project.

TABLE 18: PROJECTED TRAFFIC VOLUMES
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVE A

	-- TOTAL TRAFFIC --		PROJECT TRAFFIC - ALT. A		
Street	Case 1 1990 ADT	Case 2 1990 ADT	Number	As % of Case 1 1990 ADT	As % of Case 2 1990 ADT
Fremont S. of Mission	12,000	18,000	1,000	8	5
Harrison E. of First	13,000	13,700	1,000	8	7
Brannan E. of Third	7,000	7,500	3,000	43	40
Second S. of Bryant	5,500	5,500	1,000	18	18

Transit. Transit service is light in this part of the waterfront, due in part to the presence of predominantly industrial uses, which have lower daily and peak-hour ridership rates than downtown office uses. The MUNI Five Year Plan proposes the removal of the 80 line, a peak hour express bus operation crossing the South Beach sub-area via Beale St. Removal of the 80 line would deny some transit riders direct access to the downtown areas it presently serves. However, MUNI's future operations in both sub-areas would be

TABLE 19: CRITICAL LANE VOLUMES AT SELECTED INTERSECTIONS*
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVES A, B AND C

	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
Intersection	P.M. Peak Hour Critical Lane Volume (Vehicles/hr.)	P.M. Peak Hour Critical Lane Volume (Vehicles/hr.)	P.M. Peak Hour Critical Lane Volume (Vehicles/hr.)
Broadway & The Embarcadero	964	1,006	898
Howard & The Embarcadero	920	931	850
Harrison & The Embarcadero	950	1,027	827
Third & King	1,275	1,294	1,243

* Based on critical lane method, 1990 conditions, with NEWS fully developed; includes both sub-areas' traffic, based on NEWS area proposed road network, and with Embarcadero Freeway remaining.

TABLE 20: VOLUME CAPACITY RATIOS AT SELECTED INTERSECTIONS*
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVES A, B AND C

Intersection	ALTERNATIVE A P.M. Peak Hour Volume Capacity Ratio+	ALTERNATIVE B P.M. Peak Hour Volume Capacity Ratio+	ALTERNATIVE C P.M. Peak Hour Volume Capacity Ratio+
Broadway & Embarcadero	0.71	0.75	0.67
Howard & Embarcadero	0.68	0.69	0.63
Harrison & Embarcadero	0.70	0.76	0.61
Third & King	0.94	0.96	0.92

* Based on critical lane method, 1990 conditions, with NEWS fully developed; includes both sub-areas' traffic, based on NEWS area proposed road network, and with Embarcadero Freeway remaining.

\+ At Level of Service D, 1,350 vehicles per lane per hour.

increased by the implementation of the proposed J, E, and M lines. These new lines would provide additional transit capacity to the northern and southern portions of San Francisco. Other MUNI lines directly affected by the proposed Project would be Line 42 on Second St., and Lines 14 and 26 on Mission St. Approximately 80% of the transit trips generated by the proposed Project would be made in San Francisco with the balance distributed throughout the East Bay, North Bay and the Peninsula (see Table 21, p. 80). San Francisco trips would be accommodated primarily by lines on The Embarcadero and by such transit lines, including those on Market St., as are within walking distance of the Project areas. The availability of several transit lines would avoid adding the entire increase in trips to any one line. The roughly 355 peak-hour transit trips to other parts of the Bay Area would be absorbed by AC Transit, SamTrans, Greyhound, Southern Pacific Transportation and improved BART operations. The street closures would facilitate transit operations on Mission St. between Spear and Steuart Sts., and along the segment of The Embarcadero adjacent to the South Beach sub-area.

Parking - The Project would increase existing demand for parking. Present parking demands from industrial uses would largely be displaced by demand from the proposed retail, office, residential and public uses; demand for evening and weekend parking would be added. Existing and future parking demand from the nearby Financial District would lead to more intense use of parking space in the Rincon Point sub-area than in the South Beach sub-area.

The Northeastern Waterfront Survey (NEWS) has proposed changes in the number of parking spaces available in the survey area (see Table 22, p. 80). The NEWS parking plan assumes the removal of the Embarcadero Freeway and the construction of about 800 intercept parking spaces. Retaining the Embarcadero Freeway, as assumed in the Case 1 setting, would mean that some 500 existing spaces would continue to be available. Maintaining the existing spaces and providing new ones would reduce external demand for curb and off-street parking in the Rincon Point sub-area. If the intercept parking facilities were not constructed, or were not used as planned, the proposed Project would increase on-street parking demands in the Project vicinity.

TABLE 21: EXISTING AND PROJECTED PUBLIC TRANSIT TRIP DISTRIBUTION
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVES A AND B

	EXISTING		ALTERNATIVE A		ALTERNATIVE B	
	Daily Trips		Daily Trips		Daily Trips	
Origin/Destination	Number	Percent	Number	Percent	Number	Percent
San Francisco	4,165	62.1	14,376	80.2	19,822	77.0
East Bay	979	14.6	1,595	8.9	2,654	10.3
Peninsula	905	13.5	1,154	6.4	1,998	7.8
North Bay	657	9.8	802	4.5	1,259	4.9
TOTAL	6,706	100.0	17,927	100.0	25,733	100.0

SOURCE: Tables 13, 14 and 15, pp. 71, 73 and 74.

Construction - During construction of the proposed Project, construction vehicles and workers' autos would cause a temporary increase in demand for parking. Construction-related traffic would increase volumes on major local arterials, especially those connecting with freeway ramps. Since existing off-street parking spaces would be removed as a result of Project construction, a parking shortage would be experienced during the construction period, particularly on weekdays, in the Rincon Point sub-area.

TABLE 22: PARKING PLAN
NORTHEASTERN WATERFRONT SURVEY AREA

Parking Spaces	North of Bay Bridge	South of Bay Bridge	Total
Existing within Survey Area	1,750 *	NA	1,750
To be Removed from Survey Area	1,600	NA	1,600
Accessory to Serve New Uses	1,050	2,700	3,750
Intercept Parking to Serve Survey Area	--	800	800
TOTAL	1,200 **	3,500	4,700

* Including 529 spaces under the Freeway and on The Embarcadero.
** 4425 additional spaces are available within 1500 feet of the Ferry Building.

SOURCE: Transportation Technical Reports, Northeastern Waterfront Survey, 1979

Case 2

The Case 2 setting differs from Case 1 in that the setting is altered by the removal of the Embarcadero Freeway and the rerouting of its traffic in the manner described in the NEWS Transportation Element (Wilbur Smith Associates).

Trip Generation Due to New Development. Under the Case 2 setting, the trips generated by Alternative A remain the same as under the Case 1 setting. Trip generation is discussed under Case 1, above, and presented in Table 15, p. 74.

Street Network, Regional and Local Access. The street network and associated modifications related to Alternative A are discussed under Street Network, under the Case 1 setting, above; modifications related to the Case 2 setting are described in Section III, p. 11. Removal of the Freeway would affect traffic movements and volumes throughout Downtown and the waterfront, including the Project area. Approximately 61% of present travel on the Freeway is regional in nature. Over 90% of all traffic using the Embarcadero Freeway is estimated to have origins or destinations in San Francisco. In 1979 approximately 71,000 vehicles per day used the facility.

Traffic Circulation. After removal of the Embarcadero Freeway, its current traffic load would be diverted to alternate routes. Streets crossing Market St. near the waterfront, including The Embarcadero, Main, Beale, First and Front Sts., would be among the alternate routes and would experience increases in traffic volumes from the diversions. The ability of these streets to absorb the additional traffic is limited, and may be inadequate to serve all the diversion, particularly during peak hours. These streets would function at maximum capacity with an increase in the period of congestion. The queueing of vehicles presently occurring on the Embarcadero Freeway would be transferred to surface streets near the Bay Bridge and Bayshore Freeway ramps. See also Tables 18, 19 and 20, pp. 78 and 79. Traffic added by Alternative A would be a smaller fraction of ADT on local streets under Case 2 than under Case 1, although ADT would be higher under Case 2 than under Case 1.

Transit. Trips that could no longer be served by auto without the Embarcadero Freeway would transfer to transit systems, increasing demand. Increases in the bus and BART car fleets would be required to serve the increased peak demand. The peak transit demand period might also increase. Increased congestion and conflicts with vehicles queueing at freeway on-ramps would result in some delays in bus operation, which might affect transit schedule reliability. The new trips from the Project and other nearby development would further increase demand for transit and would result in higher patronage levels. Removal of the Embarcadero Freeway may cause some commuter trips to the North Bay to transfer to the Golden Gate Ferry, which might require additional ferries. Trips from the Peninsula may transfer to SamTrans or to the Southern Pacific commuter line. Commuters traveling to the Project area from the East Bay would be able to transfer to either BART or AC Transit. In all of these cases, additional transit capacity would be required and the affected transit agencies would face increased expenditures for the purchase of new rolling stock and for additional operating and maintenance costs. Additional fare box revenues from the increased patronage levels would offset the increased expenditures to an unknown degree. To effectively serve commuter trips, connecting shuttle service from terminal points to the Project area would be needed.

Parking - Transit services would not replace all auto trips to the Project area. Upon reaching the Project vicinity, many drivers would attempt parking in fringe areas and would probably use intercept parking facilities, if available. The possible effect of the removal of the Embarcadero Freeway on the overall parking supply might be a net reduction in use resulting from a reduced number of trips. Such a reduction would occur if congestion or lack of capacity made some auto trips to the area difficult or impossible.

Mitigation Measures - Alternative A

Case 1

Transit - To maintain high access levels in an area with a finite street capacity for vehicular traffic, emphasis should be placed on improving transit operations. Possible improvements include:

- Develop transit improvements as outlined in the MUNI Five Year Plan and coordinate such development with both the proposed Project and other NEWS area Projects to maximize transit usage and revenue.

- Encourage the use of public transit by Project area residents and workers through extensive publicity campaigns.

- Provide financial incentives such as discount MUNI passes and van or car pool parking discounts to Project area employees to promote the use of transit.

- Provide assistance to businesses and firms in the Project area to maximize transit, car pool and van pool use.

- Increase transit use through more restrictive on-street parking regulations and time limits in the Project area.

Parking - to provide for parking to serve the area:

- Provide off-street parking spaces for commercial and visitor vehicles.

Construction - to facilitate construction of the Project with the least disruption to traffic circulation and parking in the area:

- Plan street closures to occur only after the intended diversion route(s) have opened.

- Store all construction equipment and vehicles on the construction sites.

- Organize construction activities so that a maximum number of parking spaces are available in any given time period.

- Avoid using local and regional routes for construction traffic during peak traffic hours.

- Coordinate construction activities with railroad users to minimize potential disruption of freight movements.

Case 2

Mitigation measures required under Case 1 would also be required to mitigate the impacts of Alternative A under Case 2.

Traffic impacts resulting from removal of the Embarcadero Freeway would be lessened by the diversion of auto trips to public transit. The diversion could include shuttle service to intercept parking facilities from transit terminals. Car and van pools with trip matching services could reduce total vehicle trips and may be effective for some commuters. The Golden Gate Ferry line from the North Bay terminates near the Project sub-areas. Expansion of this service could eliminate some vehicle trips but would require shuttle connections to the South Beach sub-area.

Intercept parking lots near freeway off-ramps could reduce the number of vehicles on congested surface streets.

Impacts - Alternative B

Case 1 / Case 2

In Alternative B, new development would replace existing land uses in both sub-areas. Existing industrial uses would be eliminated, and maritime uses reduced from current levels. A total of about 3876 residential units, approximately 1,120,000 sq.ft. of office space and about 316,000 sq.ft. of commercial space would be developed under this alternative. These uses would result in higher densities than currently exist or are proposed under Alternative A.

As is shown in Table 23, p. 83, a net increase in person-trips would result from the new development. Over 42,700 new daily trip-ends would be generated by Alternative B. Auto volumes would increase by roughly 13,700 trips, and transit use would increase by approximately 19,000 trips per day.

TABLE 23: NET CHANGES IN TRIP GENERATION
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVE B

		Net Change - Trip Generation*		
Land Use	Net Change in Use	Person TE	Vehicle TE	Transit TE
RINCON POINT SUB-AREA				
Office	+560,000 sq ft.	+7,840	+2,835	+4,155
Retail	+67,000 sq ft.	2,010	+402	+804
Residential	+280 Units	+1,950	+715	+878
Hotel	0 Rooms	+0	+0	+0
Restaurant	-5,600 sq ft.	-392	-85	-137
Warehouse	-51,000 sq ft.	-204	-102	-71
Park	+6.5 Acres	+390	+177	+37
RINCON POINT TOTAL		+11,594	+3,942	+5,666
SOUTH BEACH SUB-AREA				
Office	-143,600 sq ft.	-2,010	-727	-1,065
Retail	+261,000 sq ft.	+7,830	+1,566	+3,132
Residential	+3,596 Units	+26,970	+9,889	+12,136
Restaurant	+0 sq ft.	+0	+0	+0
Warehouse	-290,000 sq ft.	-1,139	-568	-399
Park	+7 Acres	+420	+190	+40
Marina	+400 Slips	+1,000	+320	+200
Maritime	-30 Acres	-1,950	-975	-682
SOUTH BEACH TOTAL		+31,121	+9,695	+13,362

* TE - Trip Ends

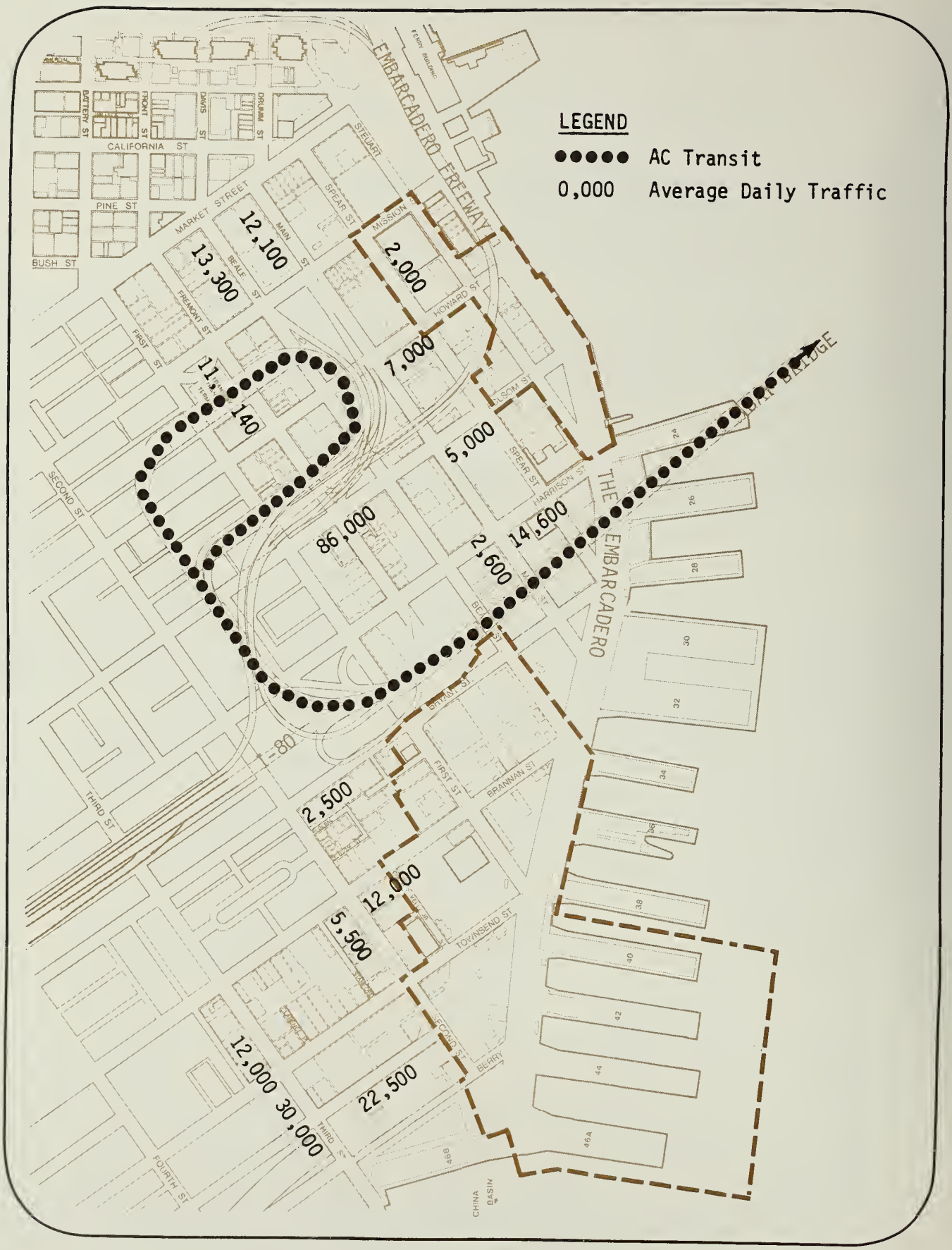


FIGURE 14
PROJECTED TRAFFIC VOLUMES
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA
ALTERNATIVE B

TABLE 24: EXISTING AND FUTURE TRAFFIC VOLUMES
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVE B

	-- TOTAL TRAFFIC --		PROJECT TRAFFIC - ALT. B		
Street	Case 1 1990 ADT	Case 2 1990 ADT	Number	As % of Case 1 1990 ADT	As % of Case 2 1990 ADT
Fremont S. of Mission	11,140	17,140	140	1.2	0.8
Harrison E. of First	14,600	14,600	2,600	18	18
Brannan E. of Third	12,000	12,000	8,000	67	67
Second S. of Bryant	5,500	5,500	1,000	18	18

About 77% of the transit trips generated by the proposed development would occur in San Francisco. The remainder would be distributed among the other regions of the Bay Area according to the distributions shown in Table 21, p. 80.

Traffic volume increases would be greater than under Alternative A on streets and ramp couplets in the Project area; see Tables 19 and 20, pp. 78 and 79. Proposed street closures would remain approximately the same as in Alternative A, and in general, impacts of these street closures would be the same as under Alternative A. Under Alternative B, however, traffic impacts of the closures would be greater, owing to the higher proposed densities and the resulting higher levels of trip generation (see Figure 14, p. 84; also Table 24, p. 85, as compared to Tables 17 and 18, p. 77 and 78).

In Alternative B under the Case 2 setting, as under Alternative A, the Project setting would be altered by the removal of the Embarcadero Freeway and the proposed Project would remain unchanged. As for Case 1, the impacts from Alternative B would be greater than in Alternative A, but the same in kind.

Mitigations - Alternative B

Case 1 / Case 2

Measures required to mitigate the impacts under Alternative B would be the same as for Alternative A. In some cases, more extensive measures would be required to match the increased level of impact. However, no additional mitigations are anticipated for either case of this alternative.

Impacts - Alternative C

No changes in land use would occur in the proposed Project sub-areas. Transportation improvements separate from the proposed redevelopment would occur (see Setting). The number of trip generated by the sub-areas would increase gradually from existing levels. As shown in Table 17, p. 77, the increased traffic would occur on the existing surface street, freeway and transit network (see Figure 15, p. 86).

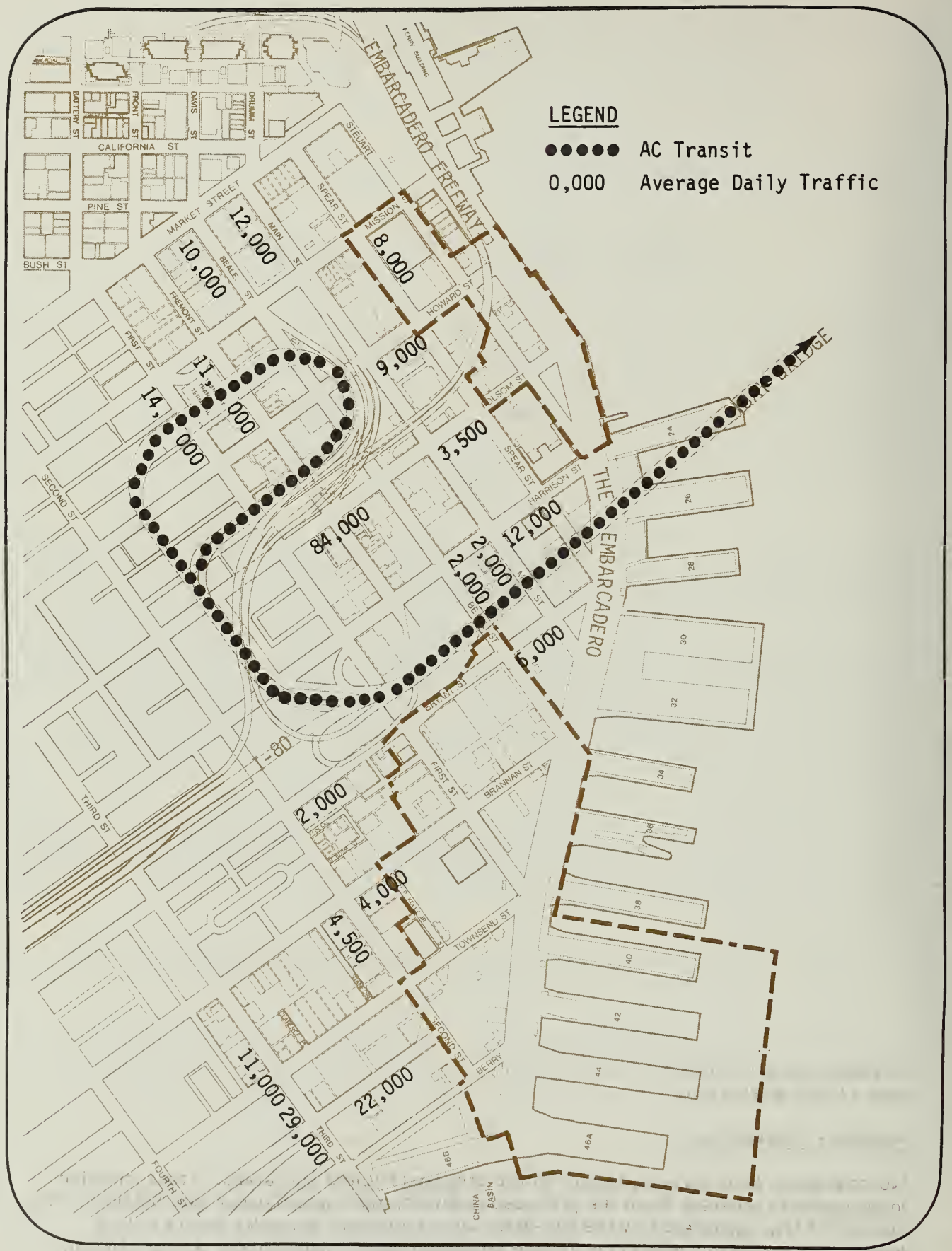


FIGURE 15
1990 TRAFFIC VOLUMES
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA
ALTERNATIVE C

Traffic Network Impacts - With no Project in Rincon Point and South Beach, traffic volumes would increase gradually from existing levels. Increases in traffic would result from activity generated by cumulative development.

Transit Impacts - Transit demands would also remain close to existing levels, with increases resulting from cumulative development.

Mitigation Measures Alternative C

None necessary.

G. CLIMATE AND AIR QUALITY

CLIMATE AND AIR QUALITY SETTING

The City is located in the central portion of the nine-County San Francisco Bay air basin. The entire air basin is designated by the California Air Resources Board as a nonattainment area for ozone (photochemical oxidant) and carbon monoxide (CO), and San Francisco is also a nonattainment area for total suspended particulate (TSP). "Nonattainment" means that the federal ambient air quality standards for these pollutants have been violated within the past two to three years. As required by the federal Clean Air Act and amendments, a regional Air Quality Plan (ABAG, BAAQMD, MTC, 1979) has been adopted which establishes control strategies to attain these standards by 1987.

The Bay Area Air Quality Management District (BAAQMD) operates an air quality monitoring station approximately 1.7 miles to the west of the Rincon Point - South Beach Project area. BAAQMD data show that this station and the area experience rare violations of the most stringent ozone, CO, nitrogen oxides (NO_x), and TSP standards.

Ozone is a secondary pollutant formed in the atmosphere by a complex series of photochemical reactions involving emitted hydrocarbons (HC) and NO_x. It takes approximately one to three hours in a stable atmosphere with strong sunlight for significant ozone concentrations to build up. Thus, ozone air pollution is a regional phenomenon because the component pollutants are carried downwind before the reaction process can form ozone. In contrast, CO and particulates are formed at their identified sources; these concentrations decrease as the pollutants are dispersed by wind. CO and particulate concentrations, therefore, reflect local emission sources.

San Francisco's air quality, in general, is the least degraded of the developed portions of the Bay Area. Much of San Francisco is generally upwind of major pollutant sources such as industrial areas, airports, freeways and other urban activities. Because the prevailing westerly and northwesterly winds tend to carry pollutants from the City toward the East Bay and South Bay, San Francisco is more a contributor to its own air quality problems (especially CO and particulate) and to those in other parts of the Bay Area (especially ozone, a regional pollutant), than a recipient of pollutants from other areas. When atmospheric stagnation occurs (as the result of calm wind conditions coupled with thermal inversions, most commonly in the fall and winter), the potential exists for the entire Bay air basin to experience high concentrations of pollutants.

Motor vehicles are the largest source of CO, HC, and NO_x in San Francisco, while paved road travel (fugitive emissions) and power plant fuel combustion are the largest sources of particulate (expressed as total suspended particulates, TSP) and sulfur oxides (SO_x), respectively. Existing emissions attributable to the Project area are primarily from vehicular traffic, and to a lesser extent from small stationary sources such as boilers and furnaces and other industrial operations such as paint and solvent uses. Estimated 1980 and projected 1990 emissions from traffic generated by existing onsite uses are shown in Table 25, p. 90. Emissions in this Table are based on vehicle miles traveled (VMT) by site-generated traffic. Therefore, these emissions are region-wide; they include emissions within the Project area as well as emissions to distances of up to about 20 miles from the project site. Projected 1990 vehicular emissions from continuation of existing uses would be lower than in 1980 due to state- and federal-mandated vehicular emission controls.

Impacts - Alternative A

Case 1

Climate Impacts

Areas of pedestrian activity would be affected by proposed structures through their impact on shadows and winds. The San Francisco Comprehensive Plan recommends that pedestrian areas, particularly parks and plazas, be oriented to permit maximum exposure to sunlight.

In the Rincon Point sub-area, portions of the 1,440 foot long major park proposed between The Embarcadero and the Bay could be shaded during the afternoon by the proposed commercial area to the west and by the existing elevated Embarcadero Freeway. In the South Beach sub-area, portions of the major park proposed adjacent to the new Marina could be shaded by structures in the residential area to the northwest, only in late summer afternoons.

Wind effects of structures are complex; without detailed designs, problem areas in the Project cannot be identified. In general, tall, bulky buildings can create street-level winds. Certain building shapes may also increase gustiness and turbulence at corners, depending on the orientation of the structure with respect to the wind direction. High or gusty winds and/or persistent shadows can render pedestrian areas virtually unusable. Wind conditions are also an important factor in design of the South Beach marina.

Air Quality Impacts

Construction Effects. Demolition, earthmoving and construction activities would affect local air quality, especially particulate (dust) concentrations. In contrast to gaseous pollutants and to small-size particulates from combustion, a large fraction of particulate from construction settles out of the atmosphere rapidly with increasing distance from the source and generally does not penetrate to the lungs. It has been estimated that the small-size (less than 30 microns in diameter) fraction of construction particulate, which may remain suspended indefinitely and is a health hazard, is generated at the rate of 1.2 tons per acre per month of activity (U.S. EPA, 1977). This would include emissions from excavation and earthmoving, traffic on unpaved surfaces, wind erosion and construction of structures. Without mitigation, this rate could result in a worst-case 24-hour concentration of approximately 5,500 micrograms per cubic meter (ug/m^3) at and adjacent to the site during the demolition, excavation and earthmoving phases. This would be 55 times the State 24-hour standard of 100 ug/m^3.

The use of oil-based paints would generate hydrocarbon emissions, important because they react with nitrogen oxides in the presence of sunlight to form ozone (smog). Regulation 8, Rule 3, of the BAAQMD prohibits the sale and application of any architectural coating that contains more than 250 grams per liter of volatile organic compounds after September 2, 1980./1/

The use of asphalt for road paving would also generate hydrocarbon emissions. Regulation 8, Rule 15 of the BAAQMD prohibits the use of: rapid-cure cutback asphalt; any cutback asphalt during April through October, except when the temperature is below 50 degrees; and, after 1 January 1982, emulsified asphalt containing petroleum solvents in excess of three percent by volume.

TABLE 25: ESTIMATED AND PROJECTED VEHICULAR POLLUTANT EMISSIONS
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT

Sub-Area			Pollutant Emissions* in tons/day				
	Year	Use	CO	HC	NOx	SOx	TSP
Rincon Point							
	1980	Existing	1.714	0.149	0.177	0.013	0.022
	1990	Alternative C	0.849	0.077	0.105	0.013	0.018
	1990	Alternative A, Case 1	1.351	0.122	0.165	0.020	0.028
South Beach**							
	1980	Existing	1.597	0.139	0.165	0.012	0.020
	1990	Alternative C	0.792	0.072	0.098	0.012	0.016
	1990	Alternative A, Case 1	1.801	0.178	0.213	0.026	0.035
Bay Area AQMD							
	1990	Projected	3,325.	884.	702.	428.	203.

* Emissions of CO, HC, and NO_x include an assumed three minutes of idle time per trip. Idle emission factors are not available for SO_x or TSP.

** South Beach emissions for 1990 Alternative A, Case 1 include those from motorized boats as well as on-road motor vehicles.

SOURCE: Environmental Science Associates, Inc., using BAAQMD, 1979, EMFAC-5 Vehicular Emission Factors. 1990 Bay Area Projections are from ABAG, BAAQMD, MTC, 1979.

Long-Term Operation Effects. Long-term air quality impacts would result primarily from increased vehicular emissions. Table 25, p. 90, shows 1990 daily emissions of five pollutants from all Project-generated vehicular traffic and from motorized boats operating out of the proposed South Beach marina. Relatively minor amounts of emissions would also be generated by combustion of fuels for space and water heating; these would replace existing minor sources such as furnaces, boilers, paint and solvents.

Calculations of areawide worst-case pollutant concentrations were performed according to BAAQMD Guidelines (BAAPCD, 1975). Total emissions of CO, HC and NO_x within two Local Project Impact Areas (LPIA), one square kilometer areas approximately centered around the Project sites, were calculated and estimates of local annual maximum concentrations of these pollutants for appropriate averaging times were derived. The Rincon Point LPIA is bounded by Market Street, Fremont Street, Bryant Street and the waterfront; the South Beach LPIA is bounded by Bryant Street, Third Street and the waterfront. Three cases for each LPIA were considered: existing 1980, 1990 Alternative C (or base-case), and 1990 Alternative A, Case 1. The results are shown in Tables 26 and 27, pp. 91 and 92.

The 1990 base-case (Alternative C) concentrations in both the Rincon Point LPIA and the South Beach LPIA would be approximately 60% of the 1980 existing concentrations, on the average, due to vehicular emissions controls discussed previously. Redevelopment in the Rincon Point sub-area would increase HC concentrations by 14% over base-case HC concentrations; however, HC, NO_2, and CO concentrations would remain below existing 1980 concentrations. Even so, ambient standards for HC and NO_x would be exceeded in

TABLE 26: ESTIMATED AND PROJECTED LOCAL ANNUAL MAXIMUM CONCENTRATIONS (in ug/m^3*) RINCON POINT LPIA

	Averaging Time			
1980 Existing	1-hour	3-hour	8-hour	Annual
Carbon Monoxide	17,120	-	9,280	-
Hydrocarbons	-	1,060	-	-
Nitrogen Dioxide	1,630	-	-	210
1990 Base-Case**				
Carbon Monoxide	9,460	-	5,290	-
Hydrocarbons	-	580	-	-
Nitrogen Dioxide	1,160	-	-	150
1990 Alternative A, Case 1				
Carbon Monoxide	10,220	-	5,720	-
Hydrocarbons	-	660	-	-
Nitrogen Dioxide	1,140	-	-	140
Ambient Air Quality Standards				
Carbon Monoxide	40,000	-	10,000	-
Hydrocarbons	-	160	-	-
Nitrogen Dioxide	470	-	-	100

* ug/m^3: micrograms per cubic meter.
** Base-case is also Alternative C.

NOTE: Underlined values are those which exceed the applicable standard.
SOURCE: Environmental Science Associates, Inc., using BAAPCD, 1975, and based on traffic data from J. Warren & Associates.

the Rincon Point LPIA in all three cases. The Project would increase the annual maximum and probably increase the frequency of HC excesses projected to occur in the base-case, while the maxima and the frequency of excesses for NO_2 would be reduced. (The latter effect is because NO_x emissions would be reduced with lower vehicle speeds, offsetting the effect of larger traffic volumes.)

Development of the South Beach sub-area as proposed would increase HC concentrations by 23% over base-case (Alternative C) concentrations; however, HC, NO_2, and CO concentrations would remain below existing 1980 concentrations. Even so, the HC concentration would exceed the ambient standard in all three cases; other pollutant concentrations would be well below the standards. The Project would increase the annual maxima and probably increase the frequency of HC excesses projected under the base-case.

TABLE 27: ESTIMATED AND PROJECTED LOCAL ANNUAL MAXIMUM CONCENTRATIONS (in ug/m^3*) SOUTH BEACH LPIA

	Averaging Time			
1980 Existing	1-hour	3-hour	8-hour	Annual
Carbon Monoxide	4,940	-	2,820	-
Hydrocarbons	-	320	-	-
Nitrogen Dioxide	240	-	-	30
1990 Base-Case**				
Carbon Monoxide	2,950	-	1,690	-
Hydrocarbons	-	220	-	-
Nitrogen Dioxide	160	-	-	20
1990 Alternative A, Case 1				
Carbon Monoxide	3,540	-	2,020	-
Hydrocarbons	-	270	-	-
Nitrogen Dioxide	180	-	-	20
Ambient Air Quality Standards				
Carbon Monoxide	40,000	-	10,000	-
Hydrocarbons	-	160	-	-
Nitrogen Dioxide	470	-	-	100

* ug/m^3: micrograms per cubic meter.
** Base-case is also Alternative C.

NOTE: Underlined values are those which exceed the applicable standard.
SOURCE: Environmental Science Associates, Inc., using BAAPCD, 1975, and based on traffic data from J. Warren and Associates.

The projected excesses of the HC standards are especially important in view of the role of HC in ozone formation and the Bay Area's nonattainment designation for ozone. In addition, the Project would add to local and regional accumulations of CO, NO_2, particulate, and SO_x. The Air Quality Plan found that ozone would continue to be a regional problem in the future, that CO and particulate would continue to be problems on a local scale, and that certain pollution control strategies (stationary source and mobile source emission controls and transportation improvements) would be necessary to attain and maintain the standards for these pollutants as required by law. Although the Project would not directly conflict with these strategies, the Project would impede the objectives of the Plan by generating additional pollutant emissions within the air basin and in San Francisco.

TABLE 28: PROJECTED WORST-CASE CO CONCENTRATIONS AT SENSITIVE RECEPTORS
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVE A

Receptor	Contributing Streets	CO Concentration* in ppm** 1-Hour	8-Hour
1	Howard and Spear Sts.	11.9	5.4
2	The Embarcadero and Embarcadero Freeway	22.3***	7.9***
3	Spear St. and the Embarcadero Freeway	18.8***	6.9***
4	Bryant St. and the Bay Bridge	51.4***	8.5***
5	Brannan St. and The Embarcadero	15.5	6.7
6	King St. and The Embarcadero	20.9	8.7
AMBIENT CO STANDARDS		35.0	9.0

* Roadway-generated concentrations were added to "background" concentrations (contribution from upwind sources). Background concentrations were assumed to be 8.4 ppm for one hour and 4.8 ppm for eight hours, based on the average of the second-highest values monitored over the past three years and adjusted for 1990.

** ppm: parts per million

*** Concentrations are extreme worst-case values, calculated as if all sources and receptors are at the same level. The maximum impacts of the elevated freeway and the surface street would not be experienced at the same location. In addition, the elevated freeway facilitates more dispersion towards the ground than if it were a surface street.

NOTE: Underlined totals are those which exceed the applicable standard.

SOURCE: Environmental Science Associates, Inc., using BAAPCD, 1975, and based on traffic data from J. Warren & Associates.

Projections were also made of worst-case, 1990 Alternative A carbon monoxide concentrations at three sensitive receptor locations in each Project sub-area. In the Rincon Point sub-area, receptor 1 would be in a residential area located at the northeast corner of Spear and Howard Streets. Receptor 2 would be in a hotel complex located on the west side of Steuart Street and south of the Embarcadero Freeway. Receptor 3 would be in the same hotel complex but located on the east side of Spear Street and south of the Embarcadero Freeway. In the South Beach site, receptor 4 would be in a residential area located on the south side of Bryant Street (and the Bay Bridge) between First and Beale Streets. Receptor 5 would be in the same residential area but located at the north corner of Brannan Street and The Embarcadero. Receptor 6 would be located in a residential area at the north corner of King Street and The Embarcadero.

The results of this analysis, which are shown in Table 28, p. 93, indicate that receptor #4, South Beach, would experience excesses of the one-hour CO concentration standard in 1990. The major contributor at Receptor 4 would be the Bay Bridge; low-speed peak-hour traffic on the Bridge would substantially increase CO concentrations for some distance away. However, because this source is elevated, the plume would be partially dispersed by the time it reached ground level. The eight-hour standard would be approached at receptors #4 and #6, in South Beach.

Case 2

Climate

As under the Case 1 setting, areas of pedestrian activity would be affected by proposed structures through their impact on shadows and winds. In the Rincon Point sub-area, removal of the elevated Embarcadero Freeway would reduce the amount of afternoon shading of the major park between The Embarcadero and the Bay. In the South Beach sub-area, shading would be the same as under either setting.

With the exception of wind effects resulting from the removal of the Embarcadero Freeway, wind effects of structures under this setting would be the same as under the Case 1 setting.

Air Quality

The removal of the Embarcadero Freeway would shift traffic from it onto the surface streets in the area, resulting in greater congestion and lower vehicle speeds. This would tend to increase emissions of CO and HC and decrease NO_2 emissions. However, some trips previously made by automobile would shift to other modes as a result of the increased congestion, tending to decrease emissions of all three pollutants. Thus, CO and HC concentrations under the Case 2 setting might be similar to those under the Case 1 setting, while NO_2 concentrations could be lower.

Mitigation Measures - Alternative A

Case 1 / Case 2

Climate

During the design review process, conduct shadow analyses and wind studies as needed to determine the impacts of specific building designs, and adhere to recommended mitigation measures which result.

Air Quality

Comply with BAAQMD Regulation 8, Rule 3 (Architectural Coatings) and Rule 15 (Cutback Asphalts) to reduce hydrocarbon emissions.

Sprinkle demolition areas and unpaved construction areas at least twice a day to reduce fugitive particulate emissions. See also related Geology/Seismicity Mitigation Measures.

Relocate sensitive receptors away from major roads and freeways or provide adequate setbacks to reduce carbon monoxide impacts on them.

Impacts - Alternative B

Case 1 / Case 2

Climate

Areas of pedestrian activity would be affected by shadows and winds in a way similar to that described under Alternative A.

Air Quality

Projected vehicular pollutant emissions due to the Rincon Point and South Beach sub-areas would be about 130% and 134%, respectively, of those shown in Table 25, p. 90, for Alternative A, Case 1. Projected local annual maximum concentrations of CO, HC, and NO_2 in the Rincon Point LPIA would be 100%, 98% and 104%, respectively, of those shown in Table 26, p. 91, for Alternative A, Case 1; in the South Beach LPIA they would be 101%, 100% and 100%, respectively, of those shown in Table 27, p. 92. CO concentrations at sensitive receptor locations would be essentially the same as for Alternative A, as shown in Table 28, p. 93, because of the major contribution of base traffic.

Mitigation Measures - Alternative B

Case 1 / Case 2

Mitigation measures similar to those described under Alternative A would be required for this alternative.

Impacts - Alternative C

Climate

Shadowing and wind impacts of Alternative C, the No-Project alternative, would be unchanged from the present conditions except for those effects of shadows and wind changes due to any new structures.

Air Quality

The air quality data for Alternative C are presented in detail in Tables 25, 26 and 27, pp. 90, 91, and 92. These data are labeled "base-case" or Alternative C conditions. Comparisons and discussions of the data and their implications are presented in the Alternative A text.

Mitigation Measures - Alternative C

None required.

NOTE - Climate and Air Quality

/1/ For oil-based paints produced in the last decade, hydrocarbon emissions have typically been 500-700 grams per liter of paint used.

H. NOISE

NOISE SETTING

As is typical of downtown San Francisco, the noise environment of the site is dominated by vehicular traffic noise. Noise levels were measured for approximately 15 minutes at four selected locations in the Rincon Point - South Beach Redevelopment Project Area during each of the afternoons of July 3 and July 9, 1980. The results, which are representative of upper-range noise levels in the area, are shown in Table 29, p. 96.

Table 29: EXISTING NOISE LEVELS AT FOUR SELECTED LOCATIONS RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT AREA

Location	Measured L_{10}* (dBA***)	Estimated L_{dn}** (dBA***)
Rincon Point		
Howard St. between Spear and Steuart Sts.	69	66
The Embarcadero between Howard and Folsom Sts.	71	68
South Beach		
The Embarcadero between Brannan and Townsend Sts.	81	78
Bryant St. between First and Beale Sts.	75	72

* L_{10} is the noise level exceeded 10% of the time.

** L_{dn} is the day/night average noise level, a noise measurement based on human reaction to cumulative noise exposure over a 24-hour period which takes into account the greater annoyance of nighttime noises (noise between 10 p.m. and 7 a.m. is weighted 10 dBA higher than daytime noise).

*** dBA is the measure of sound in units of decibels (dB). The "A" denotes the A-weighted scale, which simulates the response of the human ear to various frequencies of sound.

The Environmental Protection Element of the San Francisco Comprehensive Plan (adopted September 19, 1974), p. 17, indicates the following day-night noise levels (L_{dn}) for major thoroughfares within the Project area:

80 dBA - Interstate 80 (Bay Bridge), and Embarcadero Freeway;

75 dBA - Mission and Second Sts. and The Embarcadero; and

70 dBA - Howard, Folsom, Bryant, Brannan and Townsend Sts./1, 2/

The differences between the levels shown in the Environmental Protection Element and the levels given in Table 29, p. 96, may be attributed to noise from other nearby roads and to changes in traffic routings, volumes and composition since 1974.

A second existing major source of noise on the site is the San Francisco Belt Railroad (the Belt Line). In the site vicinity, the Line runs along King Street and northward along The Embarcadero. At present, the main track is located on the west side, or in the median, of The Embarcadero. Spur tracks cross The Embarcadero to provide access to the piers (see Section V.A, Land Use, p. 29). The railroad operates one train in each direction each day, generally in the early morning hours. Switching operations occur daily at the Beale St. yard between Beale, Brannan and Bryant Sts. and The Embarcadero, and at the King St. yard, on King St. between Second St. and The Embarcadero. In addition, switching is required one to two times per month to deliver or pick up cars from the piers along The Embarcadero. Operations usually start about 6 a.m. and end before 10 a.m. to minimize conflicts with vehicular traffic./3, 4/

Future development and operation of the Municpal Railway E-Line along The Embarcadero would add to the noise environments of both the Rincon Point and the South Beach sub-areas. Proposed operation of the surface light-rail cars would replace the existing No 32 motor coaches which run from the SP Station to the Fisherman's wharf area. The light-rail cars, however, could be expected to be noisier than the motor coaches and would increase noise over the existing levels.

Compatibility with Ambient Noise Levels. San Francisco guidelines for the compatibility of various land uses with different noise environments (Environmental Protection Element of the San Francisco Comprehensive Plan, p. 19) were adopted by City Planning Commission Resolution No. 7244, Sept. 19, 1974. Table 30, p. 98, shows general development requirements, for each specified noise level criterion, for those land uses proposed as a part of the Project. For most land uses proposed, San Francisco guidelines generally require an analysis of noise reduction requirements and noise insulation features to be included in building designs for structures in exterior noise environments above 65 dBA L_{dn}. Table 30 relates proposed uses to specific noise criteria, and shows requirements specified by the element for compatibility.

In addition to the San Francisco Environmental Protection Element, Title 25 of the California Administrative Code states that for dwellings other than single family detached units, such as hotels, apartments and condominiums, "Interior community noise equivalent levels (CNEL) with windows closed, attributable to exterior sources shall not exceed a CNEL of 45 dB in any habitable room." CNEL is a 24-hour measurement comparable to L_{dn}.

NOISE IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

Case 1

Table 31, p. 99, shows expected exterior noise environments of the measured locations after redevelopment under Alternative A.

The upper floors of the hotel complex and housing proposed for the Rincon Point sub-area would be affected by traffic on the Embarcadero Freeway directly north of the hotel site, but the predominant noise source at street level would be traffic on The Embarcadero and traffic on neighboring streets.

Noise from operation of the Municipal Railway E-Line and the Belt Line along The Embarcadero, as rerouted, would also affect Rincon Point developments. Noise from operation of Muni E Line operations could be expected to occur throughout the day; the Belt Line would operate from 6 a.m. to 10 a.m.

TABLE 30: LAND USE COMPATIBILITY REQUIREMENTS* FOR COMMUNITY NOISE LEVELS

	Noise Levels, L_{dn}, in dBA					
Land Use	up to 60	65	70	75	80	85
Residential	A	C	C	C	C	
Hotels	A	B	B	C	C	
Parks	A	A	A,C	C	D	
Office	A	A	A	B	C	C
Commercial Retail	A	A	A	B,C	C	C
Commercial Industrial	A	A	A	A	B,C	C

*The Element shows overlapping ranges of noise levels for requirements.

Requirements

A: Satisfactory, no special noise insulation required.
B: New development only after analysis of noise reduction requirements; noise insulation must be included.
C: Discourage new development; requirements as for B, above, for development.
D: New development generally should not be undertaken.

SOURCE: Environmental Protection Element of the San Francisco Comprehensive Plan, 1974.

Exterior L_{dn} noise levels of approximately 70 dBA from all sources would be experienced at the hotel and at proposed housing (upper floors near the Embarcadero Freeway may experience higher levels); interior L_{dn} noise levels would be from 15 to 20 dBA less (50 to 55 dBA). Generally, noise levels above 60 dBA would interfere with normal speech. Because of the nature of existing uses (warehousing, light industrial and maritime) in the vicinity of the sites, the noise impact of the Project on existing uses outside the Project area would probably be minimal.

Housing proposed in the South Beacn sub-area adjacent to Bryant St. between Beale and First Sts., near Highway 80, would experience some noise from that freeway, particularly during peak hours, and from heavy trucks moving eastbound up the grade. Noise would also be generated by increased traffic on Bryant St. Exterior L_{dn} noise levels of approximately 73 dBA from these sources would be experienced at the housing. Housing, commercial areas and the park proposed for the South Beach sub-area adjacent to The Embarcadero southerly from Townsend St., including the rerouted portion on King St., would be affected by noise from traffic and rail operations along The Embarcadero. Exterior L_{dn} noise levels of approximately 80 dBA from these sources would be experienced. In addition, Belt Line switching activities at the Beale St.

TABLE 31: EXPECTED NOISE LEVELS AT FOUR SELECTED LOCATIONS
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA
ALTERNATIVE A

Location	Estimated L_{dn}*
Rincon Point	
Howard St. between Spear and Steuart Sts.	68 dBA**
The Embarcadero between Howard and Folsom Sts. (rerouted)	70 dBA
South Beach	
The Embarcadero between Brannan and Townsend Sts.	80 dBA
Bryant St. between First and Beale Sts.	73 dBA

* L_{dn} is the day/night average noise level, which is based on human reaction to cumulative noise exposure over a 24-hour period. The L_{dn} takes into account the greater annoyance of nighttime noises by weighting noise between 10 p.m. and 7 a.m. by 10 dBA over daytime noise.

** dBA is the measure of sound intensity in units of decibels (dB). The "A" denotes the A-weighted scale, which simulates the response of the human ear to various frequencies of sound.

yard and the noise resulting from coupling and uncoupling individual cars from trains would result in noise impacts on the proposed South Beach sub-area residential uses near Beale St. adjacent to the yard. According to the Noise Element, these uses would be not be compatible with expected noise levels.

Noise Impacts Associated With The Proposed Use. After structures are built and occupied, the local noise environment would be affected due to increased traffic generated by the new uses, rerouting of The Embarcadero and mechanical equipment noise.

Traffic noise levels would increase in both sub-areas and immediate vicinities due to increased traffic brought about by redevelopment. Noise levels due to Project-generated traffic would increase less than 1 dBA over the 1990 base case (without the Project) on most streets. Exceptions would be Berry St. with a 6 dBA increase, and Townsend St., with a 1 dBA increase. A 1-dBA increase in environmental noise is undetectable by the untrained human ear; 2 dBA is the minimum detectable increase.

Traffic on The Embarcadero would pass by the hotel, the parks, and commercial and residential development proposed. Uses located nearest the new route of The Embarcadero would experience exterior L_{dn} noise levels between 73 and 80 dBA, and interior L_{dn} noise levels from 53 to 65 dBA, due to the combined vehicular and rail traffic along this route.

Although the specific type of mechanical equipment which would be used in the buildings is not known, historically, mechanical equipment in buildings has increased environmental noise levels in downtown San Francisco./5/ Mechanical equipment noise is regulated by the San Francisco Noise Ordinance, Section 2909, "Fixed Source Noise Levels" (San Francisco Muncipal Code, Part II, Chapter VIII, Section 1, Article 29, 1972). The ordinance limits equipment noise levels in commercial zones to 70 dBA between 7 a.m. and 10 p.m. and 60 dBA between the hours of 10 p.m. and 7 a.m. at the receiver's property line.

During lulls in the traffic, mechanical equipment generating 70 dBA would dominate the site noise environment. Equipment noise would be inaudible if it were to be limited to 60 dBA to meet the nighttime limit. The proposed Design for Development calls for locating "to the greatest extent possible" the mechanical equipment, elevator cores and service areas of the hotel complex proposed for the Rincon Point sub-area toward the Embarcadero Freeway "to screen noise and minimize impacts on the rest of the complex and open spaces."

Construction Noise Impact. Levels and duration of construction noise would vary with the type of structure and activities required for construction. Table 32, p. 101, shows typical construction noise levels for commercial construction activities. Pile driving noise levels are not included in the table. Pile driving may be required for construction in the area, and would be the noisiest phase of construction. Conventional unmuffled and unshielded piledrivers emit noise levels of 100 to 110 dBA at a distance of 10 ft each time the driver strikes the pile. The quietest piledriver measured by the City emits 92 dBA at 100 ft., but is not always compatible with structural engineering requirements of the building. Assuming noise emissions of 100 dBA at 10 ft. piledriving would be audible to people on the streets within 1,000 ft. of the development site, where not shielded by intervening buildings. Vibrations from piledriving would also cause discomfort. Piledriver and other construction noise levels between 60 and 65 dBA would interfere with normal speech between individuals at distances of more than 3 ft. and would be annoying and distracting.

The San Francisco Noise Ordinance (Section 2907c) limits noise emissions from impact tools and equipment to 80 dBA at a distance of 100 ft. unless the Director of Public Works has approved intake and exhaust mufflers and shields or shrouds which accomplish maximum noise attenuation. To date, no muffled and/or shielded piledriver has been approved for use in San Francisco. Thus, use of any impact-type piledriver would be in violation of the Ordinance. However, the Department of Public Works allows piledriver operation under certain conditions, which may include specification of a relatively quiet piledriver, predrilling of pile holes, and specification of hours of operation to reduce the number of people exposed./5/

The Noise Ordinance (Section 2907b) also limits noise emissions from any powered construction equipment to 80 dBA at a distance of 100 ft. Adherence to this limit would ensure that this type of equipment would cause noise levels at the nearest building to be no greater than present maximum noise levels due to traffic and other mechanical equipment. Increases in noise levels due to trucking of construction materials to and from the sites would depend on haul routes chosen and existing traffic noise levels along the routes.

TABLE 32: TYPICAL COMMERCIAL/INDUSTRIAL CONSTRUCTION NOISE LEVELS AT 50 FEET

Construction Phase	Average Noise Level
Ground clearing	84 dBA
Excavation	89
Foundations	78
Erection	85
Finishing	89

SOURCE: Bolt, Beranek, and Newman, December 31, 1971, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, U.S. Environmental Protection Agency, p. 20.

Case 2

The impacts of Alternative A under the Case 2 setting would be the same as under the Case 1 setting except for impacts on land uses near the existing Embarcadero Freeway in the Rincon Point sub-area. Removal of the Freeway would result in a decrease in the level of noise at the upper floors of buildings in that sub-area; however, more surface traffic would result in an increase in street-level noise throughout the Project area.

Mitigation Measures - Alternative A

Case 1 / Case 2

Under both the San Francisco and State guidelines, noise analysis and noise insulation design would be required for proposed structures. The Redevelopment Agency would require developers to design structures to meet applicable noise criteria. As most proposed buildings would probably be climate-controlled, the expected interior L_{dn} noise levels would be approximately 15 to 20 dBA below the outside noise level. Noise generated by machinery and office activities within the buildings would not be expected to increase ambient levels.

Title 25 of the California Administrative Code states that, "Residential buildings or structures to be located within annual exterior comunity noise equivalent level contours of 60 dB adjacent to the select system of county roads and city streets (as specified in Section 186.4 of the State of California Streets and Highways code), freeways, state highways, railroads, rapid transit lines and industrial noise sources shall require an acoustical analysis showing that the proposed buildings have been designed to limit intruding noise to the allowable interior noise levels prescribed in Section T25-1092 (e) (2)." (45 dB CNEL; CNEL is essentially the same as L_{dn}).

Noise attenuation measures may include: installation of exterior noise barriers such as masonry walls or landscaped berms; noise insulation within walls of structures; and design and placement of residential structures so that they are shielded from major noise sources by non-residential structures.

Impacts - Alternative B

Case 1

Noise impacts of this alternative would generally be the same as for Alternative A, although greater numbers of residents would be exposed to noise levels since this alternative includes more dwelling units, particularly for the South Beach sub-area. Traffic related noise on Second St. between Berry and King Sts. would increase 1 dBA over the base case and on Townsend St. between Second and Third Sts. would increase 2 dBA.

Case 2

The impacts of Alternative B under the Case 2 setting would be the same as under the Case 1 setting except for impacts on land uses near the existing Embarcadero Freeway in the Rincon Point sub-area. Removal of the Freeway would result in a decrease in the level of noise at the upper floors of buildings in that sub-area; however, more surface traffic would result in an increase in street-level noise throughout the Project area.

Mitigation Measures - Alternative B

Case 1 / Case 2

Mitigation measures would be the same as those required under Alternative A.

Impacts - Alternative C

Noise levels under the No-Project alternative would be expected to increase with time due to the gradual increase in use of the area.

Mitigation Measures - Alternative C

None required.

NOTES - Noise

/1/ San Francisco Comprehensive Plan, Environmental Protection Element, p. 17, adopted September 19, 1974.

/2/ See footnotes to Table 29, p. 96, for definitions of L_{dn} and dBA.

/3/ Charles Cowden, Vice-President, San Francisco Belt Railroad, telephone communication, July 10, 1980

/4/ Steven Leo, Superintendent, San Francisco Belt Railroad, telephone communication, July 10, 1980

/5/ C. Brady, Senior Mechanical Engineer, Department of Public Works, telephone communication, December 18, 1979.

I. RESOURCE USE

RESOURCE USE SETTING

The Project area is served by Pacific Gas and Electric Company (PG&E), which provides both natural gas and electricity.

Estimates of existing energy uses are based on the square footage of existing structures and on existing uses. It was assumed that all space heating and water heating needs are met using natural gas. As shown in Table 33 below, the estimated electrical energy use is about 6.5 million kilowatt hours per year (66 billion British Thermal Units, BTU, - at source)/1/ and the estimated existing natural gas use is about 320 million cu. ft. per year (360 billion BTU - at source).

TABLE 33: ESTIMATED ANNUAL ENERGY USE FOR EXISTING STRUCTURES
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA

Land Use	Electricity		Natural Gas	
	Million KWH	Million BTU	Million Cu Ft.	Million BTU
Commercial	1.5	15,000	130	140,000
Office	3.4	35,000	190	210,000
Light Industrial	1.2	12,000	3.7	4,000
Warehouse	0.2	2,400	--	--
Restaurant	0.2	1,700	1.4	1,500

SOURCE: Environmental Science Associates

Existing vehicle fuel use was estimated; the method assumes that Project area vehicles have an average fuel efficiency comparable to that of the mix of vehicles currently driven in California. The existing estimated total vehicle fuel energy use is about 2.5 million gallons per year (360 billion BTU - at source).

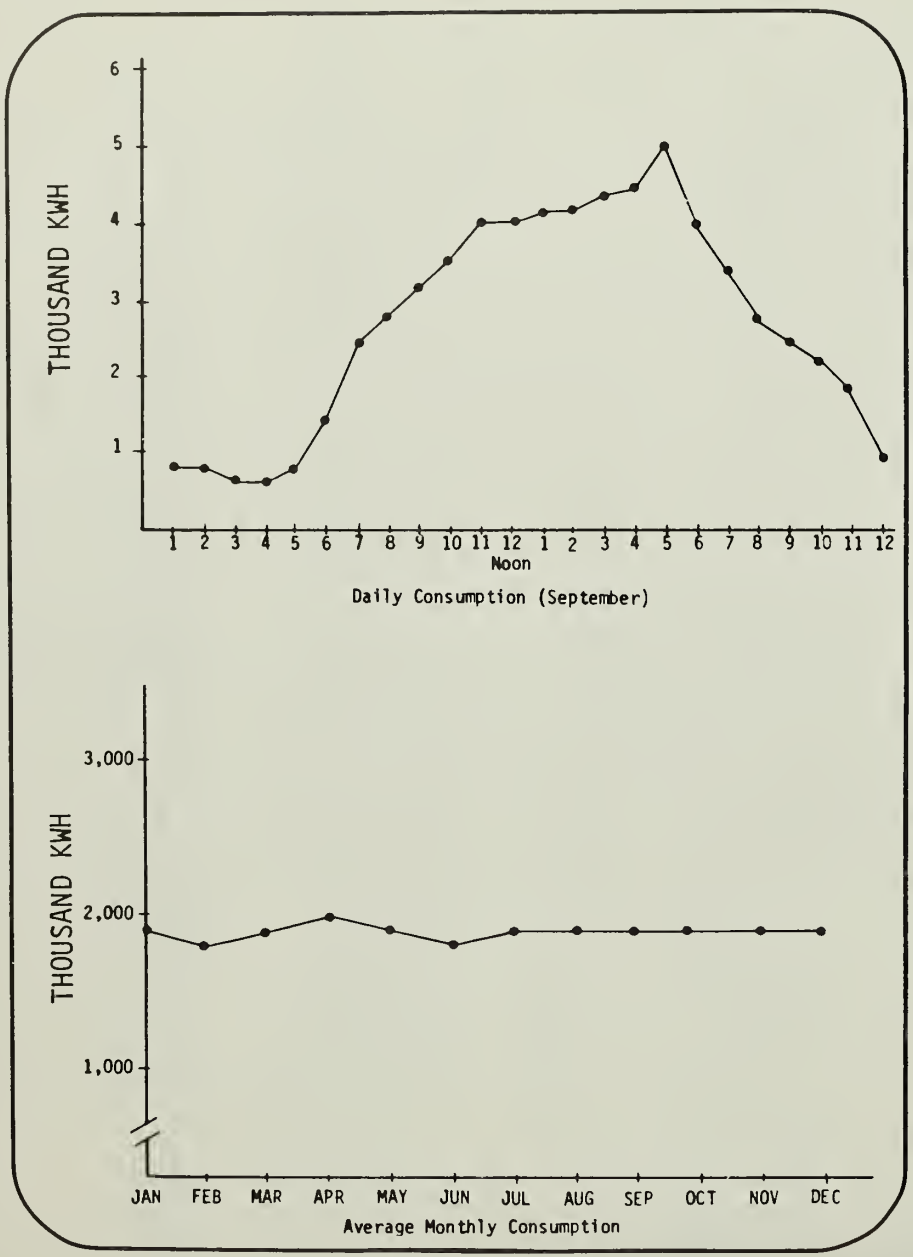
RESOURCE USE IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

Case 1

During construction, a significant but unknown amount of non-renewable energy (primarily vehicle fuel) would be used to construct new structures, and to demolish and haul away debris from existing structures. Although the amounts and distances involved cannot be estimated, the nearest disposal site is located in Brisbane, about 5 miles from the Project site. About 0.3 gallons of diesel fuel would be used for every ton of debris loaded and hauled to Brisbane.

The annual energy uses for Alternative A were estimated assuming that the structures would conform to existing State minimum energy conservation standards for non-renewable energy resources. In other words, no significant use of renewable energy



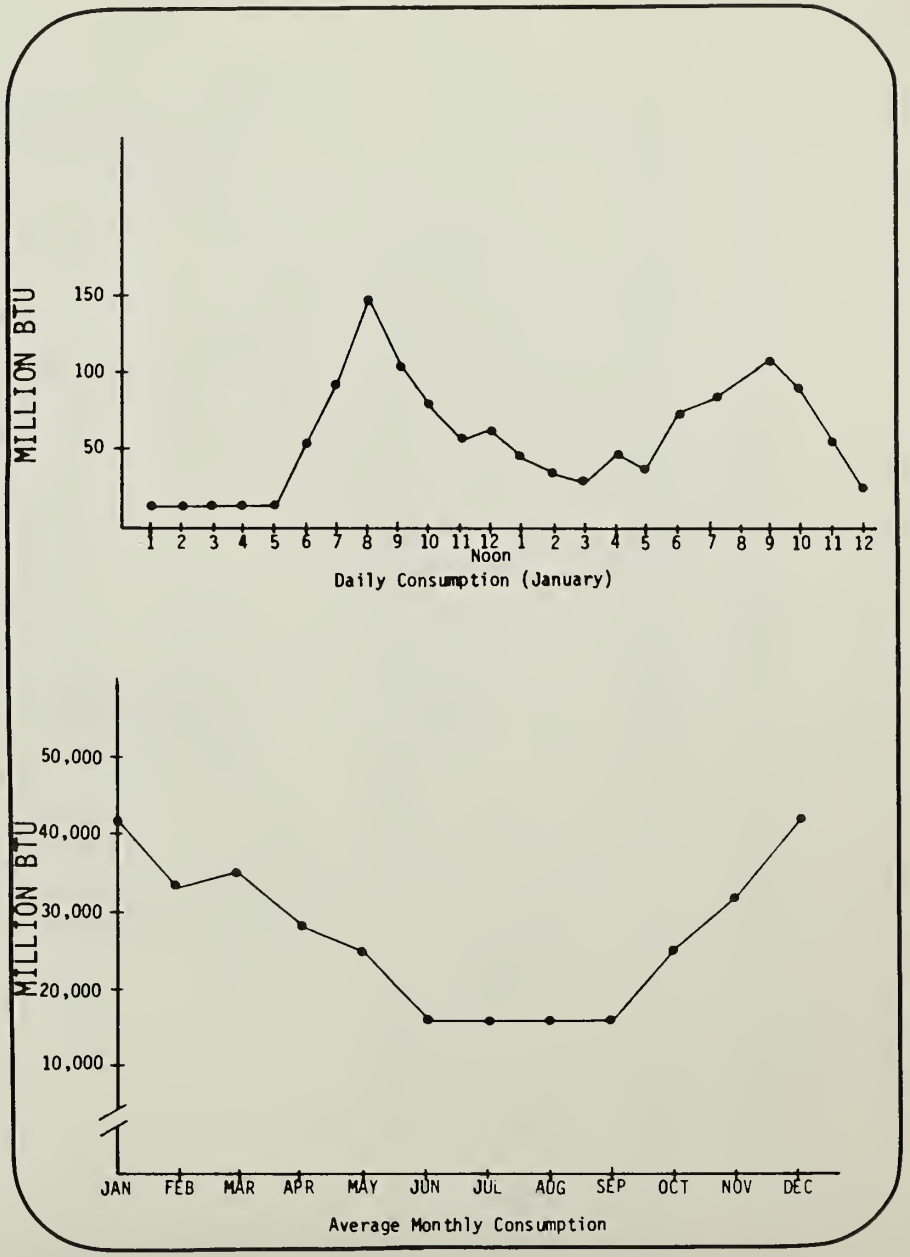


FIGURE 16
ELECTRICAL POWER AND NATURAL GAS CONSUMPTION PROFILES

sources and no energy conservation measures beyond those required to meet the existing standards were assumed. The estimated electrical energy use for Alternative A is about 24 million KWH per year (240 billion BTU - at source)(see Table 34, below). Estimated daily and annual electric load distribution curves are shown in Figure 16, p. 104. The estimated natural gas use for Alternative A is about 290 million cu. ft. per year (320 billion BTU - at source)(see Table 34, below). Estimated daily and annual natural gas use distribution curves are also shown in Figure 16, p. 104.

TABLE 34: ESTIMATED ANNUAL ENERGY USE
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVE A

Land Use	Electricity		Natural Gas	
	Million KWH	Million BTU	Million Cu Ft.	Million BTU
Residential	7.9	75,000	160	180,000
Hotel	8.8	90,000	64	70,000
Commercial	1.1	11,000	57	63,000
Office	4.8	49,000	7.2	7,900
Light Industry	0.3	3,300	1.0	1,100
Warehouse	0.1	1,400	--	--
Marina	0.7	7,000	--	--
Restaurant	0.1	1,300	1.0	1,100

SOURCE: Environmental Science Associates

The vehicle fuel energy use was estimated assuming that the vehicles involved would have an average fuel efficiency comparable to that of the mix of vehicles which would be driven in California in 1990, if existing federal vehicle fuel efficiency standards are met. The estimated total vehicle fuel energy use for Alternative A would be about 2.7 million gallons per year (390 billion BTU - at source).

The mixed residential and commercial development that would be built with this alternative would provide the opportunity for Project residents to live within walking distance of their places of work. The total vehicle miles traveled by Project workers and residents could thereby be reduced, in turn reducing fuel energy required for travel to work.

Without specific building designs, significant adverse energy impacts cannot now be identified. Such impacts could result if a building adversely affected the availability of sunlight to nearby buildings, or if the building caused unnecessary, inefficient, or wasteful use of energy. These two environmental effects could occur even if the construction and design of the proposed structures were in compliance with the State's energy conservation standards.

Case 2

Energy consumption during construction and operation, and the potential for adverse impacts of the structures proposed, would be the same as the energy use under the Case 1 setting. The removal of the Embarcadero Freeway in the Case 2 setting would result in a reduced use of vehicle fuel by the Project's occupants.

Mitigation Measures - Alternative A

Case 1 / Case 2

The San Francisco Redevelopment Agency would establish design criteria to preclude development which would significantly shade other building sites within or outside the redevelopment area.

The Redevelopment Agency would establish structural design criteria to minimize the avoidable, unnecessary and/or wasteful use of nonrenewable energy and to encourage the use of renewable energy. Each building design would be reviewed with respect to these criteria (see Appendix A for a sample list of such criteria).

Impacts - Alternative B

Case 1 / Case 2

Energy consumption during construction would be similar to, but greater than, that described under Alternative A.

The annual energy uses for Alternative B were estimated assuming that the structures would conform to existing State minimum energy conservation standards for non-renewable energy resources. In other words, no use of renewable energy sources and no energy conservation measures beyond those required to meet the existing standards were assumed. The estimated electrical energy use for Alternative B is about 33 million KWH per year (340 billion BTU - at source); the estimated natural gas use for Alternative B is about 330 million cu. ft. per year (360 billion BTU - at source). See Table 35, p. 107. Estimated daily and annual electrical natural gas use distribution curves would be similar to those of Alternative A.

Thus Alternative B would require about 20% more energy than Alternative A for the operation of the structures.

The potential for adverse impacts resulting from the blocking of sunlight to nearby buildings and/or the unnecessary, inefficient or wasteful uses of energy would be similar to that of Alternative A.

The mixed residential and commercial development that would be built under this alternative would provide the opportunity for Project residents to live within walking distance of their places of work. The total vehicle miles traveled by Project workers and residents could thereby be reduced, in turn reducing fuel energy required for travel to work.

Mitigation Measures - Alternative B

Case 1 / Case 2

Same as Alternative A.

Impacts - Alternative C

The existing energy uses described in the setting section (see Table 33, p. 103) would continue in the short run. Eventually existing structures could be demolished and replaced or remodeled. This would result in an initial reduction in energy use followed by an increase; the amount of the reduction can be estimated by referring to the "Existing Land Use" portion of Table 36, p. 107, - the increase by referring to the "Future Land Use" portion. Fuel energy for debris removal would be the same as that described for Alternative A.

TABLE 35: ESTIMATED ANNUAL ENERGY USE
RINCON POINT - SOUTH BEACH REDEVELOPMENT PROJECT
ALTERNATIVE B

Land Use	Electricity Million KWH	Electricity Million BTU	Natural Gas Million Cu Ft.	Natural Gas Million BTU
Residential	12	130,000	250	280,000
Commercial	0.91	9,100	48	53,000
Office	19	190,000	28	32,000
Marina	0.68	7,000	-	-

SOURCE: Environmental Science Associates

Land which is now vacant could be developed according to its zoning in response to private market forces. Such new development would add to the demand for energy, as shown in Table 36.

TABLE 36: ESTIMATED ANNUAL ENERGY USE AND ENERGY USE RATES
RINCON POINT - SOUTH BEACH AREA
(Use per sq. ft. unless otherwise noted)

Existing Land Use	Electricity KWH	Electricity 1000 BTU	Natural Gas Cu. Ft.	Natural Gas 1000 BTU
Commercial	8.7	89	730	810
Office	7.9	81	450	500
Light Industrial	10.	100	31	34
Warehouse	1.5	15	--	--
Restaurant	10.	100	85	94

Possible Future Use	Unit of Use				
Residential	(per unit)	3,200	33,000	65,000	72,000
Hotel	(per guest room)	11,000	110,000	80,000	88,000
Commercial		2.8	29	150	170
Office		17	170	26	28
Light Industrial		10	100	31	34
Warehouse		1.5	15	--	--
Marina	(per slip)	1,700	17,000	--	--
Restaurant		6.8	70	56	62

SOURCE: Environmental Science Associates

The shapes of the demand curves for electricity and natural gas would be expected to be similar to those shown for Alternative A. The potential for adverse impacts would be related to the blocking of sunlight from nearby buildings and the wasteful use of energy.

Mitigation Measures - Alternative C

None required.

NOTES - Resource Use

/1/ The term "at source" means that the energy losses in generation and transmission (or in production and transport, for fuels) have been included.

J. GEOLOGY/SEISMICITY

GEOLOGY/SEISMICITY SETTING

Topography. The Rincon Point sub-area is on flat to gently sloping land between Rincon Hill on the south and San Francisco Bay on the northeast. The site is near Elevation 0, San Francisco Datum (SFD), which is 8.7 feet above mean sea level (MSL). Higher land is located to the south on Rincon Hill.

The onshore portion of the South Beach sub-area is located adjacent to San Francisco Bay and extends onto Rincon Hill to the west and northwest. The lower, eastern and southern portions of the sub-area are generally flat and near elevation 0 (SFD); the upper portions of the sub-area rise to about 40 feet (SFD) on the southeastern flank of Rincon Hill. The offshore portion of the South Beach sub-area has a maximum depth of about 35 feet.

Geologic Materials. No preliminary subsurface investigation of geologic materials of the Rincon Point and South Beach sub-areas has been made. The nearest known borings were made about 375 feet northwest of the Rincon Point site, at a location south of Market Street between Steuart and Spear Streets. The boring revealed 31 feet of artificial fill which overlies 86 feet of Bay mud and clay, which in turn overlie 146 feet of sand clay and clay layers. The latter materials are underlain by sandstone and shale bedrock of the Franciscan formation./1/ Similar geologic materials probably underlie both sub-areas.

Before 1850, the Rincon Point sub-area and the lower portion of the South Beach sub-area were underwater within Yerba Buena Cove of San Francisco Bay. The Cove was filled with dune sand, silt, clay, rock waste from excavations, organic material and debris. By 1852, the site was dry land near sea level. Between 1867 and 1870, a sea wall was constructed to the east of the Project area to protect the fill. In the Bay portions of the South Beach sub-area, the piers are located over Bay muds and the underlying geologic materials; no filling was done in that area.

Bay mud and artificial fill are compressible and unstable; the materials have low bearing capacities and are unsuitable as a foundation base. Large buildings constructed over bay muds are supported by piles driven into the next layer of geologic material, the dense clayey sand. The underlying old Bay clays are stiff (non-plastic) and capable of bearing heavy loads./1/

In the northern portion of the South Beach sub-area, the Franciscan Formation bedrock is exposed at the surface. Toward the south and east, artificial fill, Bay muds, clays, sand and silt increase in thickness.

Seismicity. No active faults (faults which have a historic record or other geophysical evidence of movement within approximately the last 10,000 years) are known to exist within the City of San Francisco. Several active faults affect San Francisco; these are the San Andreas Fault, about 10 miles southwest of the site; the Hayward Fault, about 15 miles to the east; and the Calaveras Fault, about 30 miles to the east.

Both the San Andreas and the Hayward Faults have a history of major and minor movements. Earthquakes can be expected in this region in the future. Within the next 60 to 170 years (estimates of recurrence intervals vary), at least one earthquake of the magnitude of the 1906 San Francisco earthquake (about 273 on the Richter scale of magnitude),/2/ and several earthquakes comparable to the 1957 Daly City earthquake (about 5.3 on the Richter Scale) can be expected to affect the Project area.

According to estimates in the San Francisco Seismic Safety Investigation, Geologic Evaluation/3/, potential earthquake hazards on the Project site include "violent", "very strong" and "strong" groundshaking. Violent groundshaking (defined as earthquake shaking causing fairly general collapse of brick and frame structures when not unusually strong, serious cracking of better buildings, lateral displacement of streets and ground fissuring) could occur in the portion of the Rincon Point sub-area north of Folsom St. The remainder of the Rincon Point and most of the South Beach sub-area could experience very strong groundshaking (defined as much cracking of masonry with occasional collapse of structures and lurching of frame buildings on weak underpinnings). Strong groundshaking would be expected in the higher portion of the South Beach sub-area on Rincon Hill where bedrock crops out. Strong groundshaking is defined as earthquake shaking causing general fall of brick chimneys and cracking of masonry and brickwork./3/

Liquefaction (the sudden, earthquake induced transformation of loose granular materials saturated with water to a fluid-like state similar to quicksand) would potentially affect almost the entire redevelopment Project area (the bedrock hillside of Rincon Hill excepted). Liquefaction can result in lateral movements and loss of basal support of structures which do not rest on caissons or piles. Earthquake-induced subsidence (the sudden settlement of the ground surface) and ground lurching toward San Francisco Bay (the sudden lateral movement of the ground towards an unsupported surface) could also be expected in the portions of the Project area potentially subject to liquefaction. Subsidence and ground lurching can damage foundations, utility lines and roadways.

Numerous pre-Code Type C buildings (defined as buildings having exterior bearing walls of masonry or concrete and wood floors and roof construction, which do not meet current seismic building code mandates) exist in the Rincon Point and South Beach sub-areas. In the event of a 1906-type earthquake, these buildings probably would sustain severe damage./3/

GEOLOGY/SEISMICITY IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

Case 1 / Case 2

The proposed Project may require extensive grading but overall topographic modification would be minor. Some of the spoils could be used for landscaping, but the remainder would have to be transported to an offsite disposal area. Most of the parcels have a surficial cover of unengineered artificial fill which is generally unsuitable as a foundation base. Therefore, much of that material would have to be excavated and either removed from the sites; or reworked (with removal of undesirable debris), redeposited, and compacted as engineered fill. Some slow differential settlement of structures probably would occur, but this could be planned for during the design and construction of each building. Piles or caissons probably would be needed for the construction of some taller buildings. In general, geotechnical problems could be handled at the design and engineering stage of each proposed structure. All construction methods would have to comply with the mandates of the Uniform Building Code.

The Project would expose new residents and an increased number of workers in the area to the seismic hazards of the site; these include groundshaking, liquefaction, rapid settlement and ground lurching. The new buildings would have to comply with the seismic design standards of the San Francisco Building Code. As a result, the proposed structures

generally would be safer and more capable of withstanding the lateral seismic forces associated with a major earthquake than the existing pre-San Francisco Building Code structures. The Project would remove or rehabilitate those existing pre-Code structures, which currently pose a potential safety hazard. The proposed and restored structures would reduce the earthquake hazard to an acceptable level but could not entirely eliminate the potential hazards.

Mitigation Measures - Alternative A

Case 1 / Case 2

The San Francisco Bureau of Building Inspection would require private developers to conduct soils and geotechnical studies. Individual developers would be required to incorporate recommendations of those studies into the structural designs of proposed buildings. Each soils study would include a detailed description of subsurface materials, including the materials' engineering properties and suitability for use as a foundation for the proposed structure; and would provide specific recommendations for grading, building foundation type, and other structural details.

The Redevelopment Agency would require, as a condition of development plan approval, that each private developer require his/her contractor to carry out the following measures during construction:

- Determine the amount of spoils that would be removed from the Project area and identify disposal sites. Using this information, develop haul routes which would minimize effects on area land uses and traffic circulation patterns, possibly including limitations on transport hours. This would reduce noise, dust, traffic and other impacts along the haul routes.

- Cover truck loads and clean truck wheels before traveling to reduce dust and potential sand and debris spills to reduce impacts on pedestrian and vehicular traffic, particularly motorcyclists and bicyclists.

The San Francisco Department of Public Works would require all major building contractors to post a surety bond before it would issue permits for construction.

The building contractor would be responsible for any damage that might result from construction. Private developers would be required to design all buildings to the standards of the San Francisco Building Code, Article 23, Section 2314 A to K, and conform to the policies of the San Francisco Community Safety Plan.

The San Francisco Redevelopment Agency would, through the design review process, require individual developers to design structures to meet the recommendations of the Uniform Building Code and the Structural Engineers Association of California in instances where these recommendations are stricter than those of the San Francisco Building Code. Private developers would be required by the Redevelopment Agency to incorporate additional seismic safety measures, especially in residential structures, such as firmly anchoring lighting and ornamental fixtures to walls and ceilings, and including well-labeled, manual shut-off valves for gas mains.

Impacts - Alternative B

Case 1 / Case 2

Impacts and hazards associated with Alternative B would be similar to those for Alternative A.

Mitigation Measures - Alternative B

Case 1 / Case 2

Mitigation measures similar to those described under Alternative A would have to be implemented for this alternative

Impacts - Alternative C

Under the no-project alternative, no topographic alteration of the Project area would be required. Many of the existing structures would continue to undergo slow differential settlement with accompanying damages, such as cracking of walls and foundations, and tilting of floors and walls.

The seismic hazards would be similar to those described in the setting. The pre-Code buildings would continue to subject their occupants and people in the immediate vicinity to hazards of collapse during a major earthquake.

Mitigation Measures - Alternative C

None required.

NOTES - Geology/Seismicity

/1/ Schlocker J., M.G. Bonilla, and D.H. Radbruch, 1958, Geology of the San Francisco North Quadrangle, California, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-272.

/2/ A logarithmic scale developed by Charles Richter to measure earthquake magnitude by the energy released.

/3/ URS / John A. Blume and Associates, 1974, San Francisco Seismic Safety Evaluation, prepared for the San Francisco Department of City Planning.

K. HYDROLOGY

HYDROLOGY SETTING

The Rincon Point - South Beach sub-areas are adjacent to San Francisco Bay; a portion of the South Beach sub-area includes the Bay. No lakes, springs or watercourses are located in the Project area. Most of the area is low-lying, and under natural drainage conditions would receive the runoff from the higher areas to the west (Rincon Hill). Surface runoff is generally greatest during the wet-weather months of November through April.

The Project site is located within the estimated run-up of the 100-year and 500-year tsunami. Tsunami are a series of sea waves created by an earthquake, a coastal or submarine landslide or a volcanic eruption at some distance from the point of run-up. A 500-year tsunami is the largest tsunami that could be expected in 500 years, or the tsunami with a 1 in 500 chance of occurrence in a given year. The 500-year tsunami is estimated to run-up to about elevation 11.3 feet San Francisco Datum (SFD), which itself is 8.7 feet above mean sea level (MSL) at the Golden Gate. The effects of tsunami are dampened as the waves move through the Bay; the 500-year tsunami would run-up to about 1.3 ft. (SFD) and therefore inundate the Rincon Point sub-area and most of the lower portions of the South Beach sub-area with 1 to 2 feet of water./1/

The groundwater level in the upper fill material in this area is not known but is probably relatively high, i.e. near the surface. The groundwater level in this general area of San Francisco has fluctuated over the past few years because of dewatering for construction; this has been particularly true near the Rincon Point subarea.

Most of the Rincon Point and South Beach sub-areas are covered by buildings, paved parking lots, and roads so that erosion is a minor problem on the site.

Impacts - Alternative A

Case 1 / Case 2

After completion, the proposed Project would have little, if any, impact upon runoff in the Project area. Construction effects would result primarily from grading and dewatering activities. The amount of sediment washed into storm drains could temporarily increase when the soils are exposed during grading of the building sites. The potential for such sediment discharge and clogging of storm drains is greatest during the rainy November-April period. The Project would eliminate existing areas of exposed soil, and replace them with buildings and landscaping which would hold the soil in place and reduce the amount of sediment entering storm drains.

During excavation of building sites, dewatering probably would be required for some sites, particularly those located in the low-lying areas near San Francisco Bay. The water discharged from the excavation pit may contain sediment which would be directed onto streets and into stormdrains. As the groundwater table is lowered, settlement of adjacent areas could occur, damaging nearby buildings. Typical damage would include cracking of walls and foundations, tilting of floors, walls settling out of plumb, cracking and sinking of street pavement and sidewalks, and damage to underground utility lines, and storm drains. Older buildings with poor foundations would be particularly susceptible to damage.

The removal of the existing piers to construct the marina could expose the seawall (a pile of debris and rubble constructed to protect artificial landfill) to increased erosion by storm waves or large waves in the wake of large ships. A breakwater is proposed as a part of the marina. Currently, no specific design exists for the breakwater. Because of the 35-foot depth of the marina site, construction of a free-floating breakwater is probable. If a free-floating or pile-supported breakwater were to be constructed for the marina, there would be minimal effects on existing water quality, aquatic life, tidal currents and sediment loads within the marina. If a tight-wall impermeable breakwater were to be constructed, dredging and underwater construction activities would be required. Construction would adversely affect water quality by increasing suspended sediments and the pollutants which they contain in the waters of San Francisco Bay. This effect would result from the disruption of the bottom sediments during pile removal and breakwater construction and from the discharge of water from foundation dewatering activity. Presence of a tight-wall breakwater would affect sedimentation and tidal currents within the marina basin and nearby portions of the Bay.

Large tsunami could cause significant damage to the marina and the Project area. A breakwater would offer some protection to the marina and shore, but the degree of protection cannot be assessed. If an inundation of 1 or 2 feet were to occur, a large portion of the Project area, including residential, commercial and recreational facilities, could be flooded.

Mitigation Measures - Alternative A

Case 1 / Case 2

The Redevelopment Agency would require each Project developer to implement the following measures during construction:

- Restrict grading to the dry summer months of May through October or take other reasonable precautions to reduce erosion and siltation problems in the Project area.

- Filter dewatering discharges through sediment traps before emptying them into storm drains.

- Landscape building sites as soon as grading is completed or take other reasonable precautions to reduce the amount of material eroded from the site during and after construction.

The San Francisco Department of Public Works would require major building contractors to post a surety bond (or satisfactory evidence of insurance coverage) before the Department would issue building permits. The building contractor would be held responsible for any damage that might result from dewatering.

During the preliminary design of the marina, the Redevelopment Agency would hire a qualified hydrologist to conduct a detailed study of the potential impact of the marina on currents, sedimentation, and erosion. This study would address potential adverse impacts and irreversible changes to the Bay caused by construction of the marina; and would provide specific recommendations regarding the design and construction of the marina to reduce the identified adverse impacts. The Redevelopment Agency would prepare the final design of the marina based on the findings of that study.

The Redevelopment Agency would require marina design to provide protection against large stormwaves, large waves from the wake of ships, and the 100-year tsunami.

Impacts - Alternative B

Case 1 / Case 2

The impacts of this alternative would be similar to those of Alternative A.

Mitigation Measures - Alternative B

Case 1 / Case 2

Mitigation measures would be the same as for Alternative A.

Impacts - Alternative C

Under the no-project alternative the existing conditions described in the setting section would continue.

Mitigation Measures - Alternative C

None required.

NOTE - Hydrology

/1/ Garcia, A.W., and J.R. Houston, 1975, Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound, Technical Report H-75-17, Hydraulics Laboratory, U.S. Army Engineer Waterways Experiment Station, P.O. Box 631, Vicksburg, Mississippi, 39180.

L. ECOLOGY

ECOLOGY SETTING

The Rincon Point sub-area, and the portions of the South Beach sub-area which lie westerly of The Embarcadero are both developed urban areas which do not contain significant amounts of vegetation. Wildlife is primarily restricted to rats, pigeons, seagulls and English sparrows.

In the South Beach sub-area, east of The Embarcadero, there are four pile supported piers projecting out over waters of San Francisco Bay. The biotic community associated with San Francisco Bay is described in the Environmental Assessment of Five Alternative Wastewater Systems (ESA, 1978). The community consists of a variety of free floating microscopic plants and animals (plankton), fish (nekton), and bottom dwelling (benthic) invertebrates. A number of bird species feed upon these organisms. The bottom dwelling organisms which require a solid substrate as a point of attachment (e.g. barnacles, mussels and clams) make intensive use of the pier-supporting piles as a point of attachment. No plant which is officially protected under either the Federal Endangered Species Act (U.S. Fish and Wildlife Service, 1979 a and b) or the State Native Plant Protection Act (Rae, 1979) was noted on the site. No plant which has been proposed for protection under these acts (Ayensu, et al., 1978; Powell, 1977) was noted on the site. None of the above mentioned plants has ever been recorded from the site.

No animal species which is officially protected under either federal or state Endangered Species Acts (U.S. Fish and Wildlife Service, 1979a; Department of Fish and Game, 1978), was noted on the site. Only one San Francisco animal has been proposed for protection under these acts (U.S. Fish and Wildlife Service, 1978). This is the San Francisco tree lupine moth (Grapholitha edwardsiana) a small moth which is almost totally dependent upon the tree lupine plant (Lupinus arboreus) for food and shelter. Neither the moth nor its plant habitat were noted on the site.

ECOLOGY IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

Case 1 / Case 2

Because old sewer lateral lines would be removed and/or replaced, this Alternative would destroy much of the existing habitat for rats on both the Rincon Point and South Beach sub-areas. Temporarily increased rat control efforts may be needed in adjacent areas to control displaced rats in search of alternate living areas. The alternative would offer increased habitat for English sparrows and pigeons, especially in the proposed park and open space areas. The Project also would result in the short-term destruction of almost all of the bottom-dwelling organisms which use the pier-supporting piles. After completion of marina construction a comparable amount of solid substrate would be available on the piles which would support the breakwater and marina slips and/or on the (floating) breakwater and slips themselves. Within 3 to 5 years after construction of the marina, bottom-dwelling organisms could be similar to those currently occupying the piles in the South Beach sub-area. During construction, increases in suspended solids and the pollutants which they contain could adversely affect the biota of the nearby portions of San Francisco Bay. These effects would be most pronounced upon free-floating life forms such as plankton and fish eggs. There could be an adverse effect upon the reproductive success of the herring which enter this portion of San Francisco Bay to spawn.

After construction, local changes in currents and sedimentation patterns might act to alter the suitability of this portion of the Bay for the biota which live there now.

There would be no adverse impact upon any species which is protected or which is proposed for protection under either State or Federal Endangered Species Acts.

Mitigation Measures - Alternative A

Case 1 / Case 2

During the preliminary design of the marina, the Redevelopment Agency would hire a qualified marine biologist to conduct a detailed evaluation of the potential for adverse effects on marine biota which could result from construction activity and from the long-term effects on local currents and sedimentation. The biologist would also identify measures to reduce or eliminate any adverse effects. The Agency would prepare the final design of the marina based on the findings of that study.

Impacts - Alternative B

Case 1 / Case 2

The impacts of this alternative would be similar to those under Alternative A.

Mitigation Measures - Alternative B

Case 1 / Case 2

As under Alternative A.

Impacts - Alternative C

This alternative would have no ecological impacts; existing habitats for rats, english sparrows and pigeons would remain; aquatic substrate habitat would also remain in its present state.

Mitigation Measures - Alternative C

None required.

M. HISTORIC AND ARCHAEOLOGIC ASPECTS

HISTORIC AND ARCHAEOLOGIC ASPECTS SETTING

Prehistoric Resources

No known or recorded prehistoric sites exist within the redevelopment Project area./1/ The location of the Rincon Point sub-area within the historic shoreline of Yerba Buena Cove limits its prehistoric archeological potential to sites which were under water./2/ Most of the South Beach sub-area was also under water before historic times. Development within the Project area during the latter half of the 19th century has probably altered or destroyed any unrecorded sites; however, intact portions of sites near the surface or deeper earlier sites of potential National Register quality may exist./3/

Historic Resources

A site was recently discovered in the South Beach sub-area at the foot of King St. at The Embarcadero during excavation of the C-2 Alignment of the North Shore Channel Outfalls Consolidation Project for the Wastewater Management Program. This buried 19th century ship has been identified as the whaler "Lydia"./4/

Cultural resources from the Spanish and Mexican periods (1776-1848) are not likely to be found in the Project area. This is due primarily to the lack of exposed landforms during these periods, and because the area was a considerable distance from travel routes to known settlements.

Historic sites associated with the Gold Rush and early American periods may exist within the Project area. The northeastern waterfront began to take form following the Gold Rush of 1849. Numerous sailing vessels anchored in Yerba Buena Cove were later either beached to serve as structures, integrated into wharves, or scuttled or dismantled at Rincon Point. Sailing vessels were used in the same way in the South Beach sub-area where many early settlers became squatters on the surrounding filled land.

Reclamation of the shallow tidal zones and construction of wharves occurred first in Yerba Buena Cove; by 1855, Steuart St. was the main north-south thoroughfare of the Rincon Point sub-area. Filling of this area continued until the 1880s. Similar development within the South Beach sub-area was somewhat slower. In 1867 the Pacific Mail Steamship Company wharf and the adjacent Oriental Warehouse wharf were completed. These were part of a succession of wharves that pushed the landform bayward.

The Rincon Point - South Beach Project sub-areas were first characterized by shipping and industry essential to the development of the Bay Area and western states. However, throughout this period, pockets of residential neighborhoods reflecting the multi-ethnic character of San Francisco were developed in space not used for industry./5/ By 1887, the South Beach sub-area contained a neighborhood commercial row fronting on First St., which included retail stores, service centers and saloons./6/ By this time the Rincon Point sub-area had been partially transformed from industry to boarding houses, saloons, and small commercial enterprises.

The Great Fire of 1906 is known to have spread to the northwesterly section of the South Beach sub-area and to the section of the Rincon Point sub-area north of Howard St. Substantial changes in land uses followed the Great Fire. Rebuilding of the area resulted in mixed use, including light industry, warehouses, hotels, and apartments. By 1912, most structures were complete and they remained intact until the recent economic decline and physical deterioration of the area.

Although the 1906 fire destroyed substantial portions of the surface architecture, its effect on the subsurface remains is not known. Rebuilding may have destroyed or substantially altered subsurface remains.

Available geotechnical and historic data are too general to accurately identify subsurface construction or specific deposits resulting from human occupation. Recent geotechnical information contained in the Geotechnical Investigation for the Proposed Channel Outfalls Consolidation Project (Woodward-Clyde, 1975) /7/ only defines depth of fill. Historic documentation contained in the Preliminary Survey of Historic Cultural Resources prepared by R. and N. Olmsted for the Northeastern Waterfront Advisory Committee /8/, and contained in published secondary sources, is insufficient to assess the Project area's potential for National Register quality subsurface cultural deposits. The preliminary survey identifies recorded archaeological cultural resources, and describes, in general terms, the archaeologic potential of the area. Historic cultural resources identified in the most recent archaeological testing conducted in the Project area during 1978 for the Wastewater Management Program cannot be evaluated at this time because the depositions have not been analyzed or recorded./9/

Buildings Potentially Eligible for the National Register

At present, there is one building in the redevelopment Project area which is recorded on the National Register of Historic Places; that building is the Rincon Annex Post Office. This structure is recognized for the historic Anton Refregier murals in the lobby area (see Figure 17, p. 120). A nearby building, the Audiffred Building, at Mission and Steuart Sts. (outside of the redevelopment Project area boundaries), has been nominated to the National Register. A recent fire destroyed the interior and roof of the Audiffred Building, but the exterior remained mostly intact. The building is now being restored. Determination of its current significance awaits a decision by the Keeper of the National Register. Both the Rincon Annex Post Office and the Audiffred Building were given a rating of 3, on a scale of 0-5, in the Department of City Planning 1976 Architectural Inventory./10/

Using the criteria of the National Register of Historic Places (see Appendix D), six buildings within the redevelopment Project area and its peripheries/11/ are potentially eligible for the National Register. Four of the buildings are within the Project area: the Oriental Warehouse, Hooper's South End Grain Warehouse, Dunn Instruments Building, and Cape Horn Warehouse (see Figure 17, p. 120). Two stand outside of the Project area: the Rosenberg Brothers Dried Fruit Warehouse and California Warehouse.

All six buildings are located in the historic South End warehouse area. Their architecture represents the warehouse style of the late 19th century, a time when waterfront and port activities comprised San Francisco's principal economic base. Now that maritime activity at the waterfront has declined, these warehouses are almost all that remains of the life of that period. The Oriental Warehouse is the oldest building in the South End warehouse area, a zone that spans the blocks from Berry to Federal Sts. (see Figure 17, p. 120, p. 120). Activities associated with this warehouse have made a significant contribution to the history of San Francisco. Commerce between California and Asia was inaugurated from this building which then adjoined the Pacific Mail Steamship wharf. Thousands of Chinese immigrants entered the United States across this wharf. As this trade grew it triggered the development of the South End warehouse area.

FIGURE 17
HISTORIC BUILDINGS
RINCON POINT - SOUTH BEACH REDEVELOPMENT AREA

The architectural and historic features of the six buildings are described below.

- Oriental Warehouse, 650-622 First St., ca. 1867. The Oriental Warehouse, built in 1867, is a red brick structure divided in the interior into three long bays with loft space above. This building is potentially eligible architecturally and historically for inclusion in the National Register. The building's detailed main loading portals and the molded pediment give it architectural merit, and its history as the point of debarkation for Chinese immigrants makes it an important historic monument, rivaling Angel Island. Over the facade a painted sign reads: "Oriental Warehouse Company, Bond and Free" (see Section V.A., Visual and Aesthetic, Figure 10, p.34). This sign is probably the oldest sign in San Francisco. During its operation, the warehouse was used to store rice, silk, and tea from China and Japan, grain from Calcutta, and coffee from Central America. Today, Southern Pacific Railroad Company owns the warehouse and uses it to store records. The Oriental Warehouse is officially recognized as a cultural resource of local importance; it was designated a San Francisco landmark in 1977 (Landmark No. 77.6, 101st Landmark)./12/

- Hooper's South End Grain Warehouse, 50 Colin P. Kelly, Jr. St., ca. 1877. Hooper's South End Grain Warehouse is a brick warehouse with a stuccoed facade. Its significance is associated with its age and presence during the South End's active period of port-related warehousing rather than with its architectural merit. After 1893, the building carried the name Morton's Warehouse and stored general merchandise.

- Dunn Instruments Building, 52 Colin P. Kelly, Jr. St., 1907. This warehouse's eligibility rests upon its importance to the South End warehouse area. The present occupant, Dunn Instruments, Inc., believes the building dates from 1907.

- Cape Horn Warehouse, 540 First St., ca. 1907. The Cape Horn Warehouse has merit architecturally, but the eligibility of this building also rests on its history as part of the warehouse area. This building bears the name "South End Warehouse" across its frontage on First St. Once a freight forwarding warehouse, it has been used as a paper warehouse in recent years.

- California Warehouse, 56 Colin P. Kelly, Jr. St., ca. 1882. Hooper's grain storage business expanded to another brick building, the California Warehouse. This warehouse, located outside of the Project area, was erected in the same block as Hooper's warehouse, fronts on Japan St., which is now Colin P. Kelly, Jr. St. While this building lacks architectural merit, it derives its significance from associations with the South End history and the adjacent buildings.

- Rosenberg Brothers Dried Fruit Warehouse, 275 Brannan St., ca. 1912. The last warehouse built along South End row was Rosenberg Brothers Dried Fruit Warehouse, erected in 1912 at the corner of Colin P. Kelly, Jr. (Japan) and Brannan Sts. This three-story brick warehouse is located outside of the Project area. This building has no particular architectural merit; its significance stems from its presence within the South End warehouse row.

Places and Events

No historic places or events have been recorded within the redevelopment Project area
/8/ As a rule, land use patterns in urban areas correlate with ethnic and social

populations. This is especially true during the 19th century in the South Beach sub-area where the Chinese presence, in particular, was notable. While considerable information has been collected in the Preliminary Survey of Historical Cultural Resources /8/ on commercial activities within the Project area, little information has been recorded on the other economic groups and the ethnic populations who worked and lived in the Rincon Point - South Beach sub-areas before 1930. Laborers, residents and merchants in this area created a history which has not been recorded on official inventories.

HISTORIC AND ARCHAEOLOGIC ASPECTS IMPACTS AND MITIGATION MEASURES

Impacts - Alternative A

Case 1 / Case 2

Prehistoric/Historic Resources

Impacts on subsurface archaeological prehistoric and historic resources resulting from construction of the Rincon Point - South Beach redevelopment Project cannot be identified prior to construction. Any existing subsurface resources could be disturbed by Project construction activities (see below, Mitigation Measures for Alternative A, Prehistoric/Historic Resources).

Buildings Potentially Eligible for the National Register

The proposed Redevelopment Plan for the Rincon Point - South Beach Project provides for retention and historical restoration of all the identified historic buildings within the Project area. The Rincon Annex Post Office building, currently on the National Register of Historic Places, would be retained and restored for adaptive re-use such as a local post office and/or museum in the lobby area.

The 4 buildings identified as potentially eligible for inclusion on the National Register would also be retained and restored for adaptive re-use. The Oriental Warehouse would be restored and is proposed to include several adaptive commercial uses. The proposed uses for the warehouses on the west side of Colin P. Kelly, Jr. St. and the Cape Horn Warehouse on the west side of First St. may include warehousing. The proposed retention and restoration of these historic buildings would preserve and enhance the historic environment and integrity of the South End warehouse area. Therefore, the historic and architectural integrity of the two buildings outside the Project area would not be adversely affected by the Project.

Historic Places and Events

To evaluate the possible effects on historic places and sites associated with events it would be necessary first to determine if there are, in fact, any places or sites within the Project area that are considered important (refer to Mitigation Measures below under Alternative A, Historic Places and Events)./13/

Mitigation Measures - Alternative A

Case 1 / Case 2

Prehistoric/Historic Resources

Because of the limited nature of Project excavation, the Redevelopment Agency believes it more cost-effective to implement the following measure rather than conduct an archival search and a subsurface investigation prior to construction:

If the contractors encounter a potential historic site, or archaeological or paleontological resource during the Project construction, the portion of the construction work which affects this find shall cease. The construction manager would be immediately notified of such a find and would consult with the Chief of Planning (SFRA) on selection of an archaeologist or paleontologist, as appropriate, to survey the area and the find and to preserve the resources if possible and appropriate. Construction may be delayed for such work for up to 4 months. The contractor would be expected to cooperate in efforts to preserve the find.

Buildings Potentially Eligible for the National Register

The proposed redevelopment Project provides for the preservation of all identified historic buildings within the Project area. In addition, the Redevelopment Agency is currently meeting with the State Historic Preservation Office to review National Register issues.

Places and Events

Impacts on these resources can be mitigated by preparing a record of their location and significance. The Redevelopment Agency would hire a cultural resource consultant to prepare an overview of the redevelopment Project area which would describe the social activities of the people within the impact area, the places where these activities occurred and the meaning each event and its site had to the inhabitants. Personal accounts and recollections of historic events and activities would be used together with descriptions found in written documents.

Impacts - Alternative B

Case 1 / Case 2

In addition to the impacts identified under Alternative A, this Alternative may involve the demolition of some of the South End / Japan Street Warehouses within the Project boundaries (the Dunn Instruments Building, the Hooper's South End Grain Warehouse, and the Cape Horn Warehouse). A third Japan Street Warehouse, the California Warehouse, is not within the Project boundaries.

Mitigation Measures - Alternative B

Case 1 / Case 2

The Redevelopment Agency would commission record drawings of the buildings to be demolished, and would place appropriate historical commemorations in the vicinity. The other mitigations would be the same as under Alternative A.

Impacts - Alternative C

If under current zoning some uses were to be replaced, possible subsurface historic and prehistoric resources could be affected. Without the proposed redevelopment Project, there would be no Redevelopment Agency action to protect potentially eligible buildings within the Project area.

Mitigation Measures - Alternative C

None required.

NOTES - Historic and Archaeologic Aspects

/1/ Archaeological Site Record Files, June 20, 1980, Archaeological Site Survey, State Regional Office, Cabrillo College, Aptos, California; and H. Kreutzberg, Historian, State Historic Preservation Office, telephone communication, June 16, 1980.

/2/ P. Bickel, 1978, Changing Sea Levels Along the California Coast, Anthropological Implications, The Journal of California Anthropology 5-1: 6-20.

/3/ W. Henn, T. L. Jackson and J. Schlocker, 1972, Buried Bones at the "BART" Site, San Francisco, California Geology 25-9: 208-209, California Division of Mines and Geology, Sacramento; S. Baker, 1978, Report on the Fort Mason Archaeological Test Excavations, a report submitted to the U.S. Department of Interior, National Park Service, Western Region, San Francisco; and M. Rudo, U.S. Army Corp of Engineers, San Francisco District, June 13, 1980, letter report to V. Benete, Archaeologist, Mason Tillman Associates.

/4/ The archaeological testing program conducted in 1978 by Archeo-Tec, Archaeological Consultants, for the San Francisco Wastewater Program currently is being analyzed. Archeo-Tec identified cultural resource depositions within the Rincon Point - South Beach Project area. To date, these sites have not been recorded with the Regional Center; therefore there is no detailed information available for review.

/5/ M. King, 1928, Growth of San Francisco (Ph.D. Dissertation, University of California, Berkeley); and D. Daniels, 1980, Afro - San Franciscans: A Social History of Pioneer Urbanites, Temple University Press.

/6/ R. Olmsted, N. Olmsted and A. Pastron, 1977, San Francisco Waterfront Report on Historical Cultural Resources for the North Shore and Channel Outfalls Consolidation Projects, San Francisco Wastewater Management Program.

/7/ Woodward-Clyde Consultants, November 1975, Geotechnical Investigation for the Proposed Channel Outfalls Consolidation Project, San Francisco, California, prepared for City and County of San Francisco, Department of Public Works, Bureau of Engineering.

/8/ R. Olmsted and N. Olmsted, 1978, Preliminary Survey of Historical Cultural Resources, Northeastern Waterfront, Northeastern Waterfront Advisory Committee.

/9/ J. Prichett, Director of Projects, Archeo-Tec, Archaeological Consultants, personal interview, June 17, 1980.

/10/ The San Francisco Department of City Planning conducted a citywide survey of historic properties in 1976. The survey was designed to identify architecturally unique and distinctive buildings and rate them on a scale of 0-5, with 0 being the lowest rating and 5 the highest.

/11/ "Peripheries" refers to a secondary archaeologic impact area defined by the State Historic Preservation Officer (SHPO) as within one city lot radius from the Project area boundaries.

/12/ C. Beckman, Assistant Zoning Administrator, San Francisco Landmarks Preservation Advisory Board, telephone communication, July 7, 1980.

/13/ 36 CFR Part 66.9; 36 CFR, Part 800 (Section 06 of the National Historic Preservation Act, 1966); the Advisory Council on Historic Preservation Guidelines for Implementing 36 CFR, Part 800; and State Historic Preservation Office Guidelines for Implementing CFR 36, Part 800.

N. GROWTH INDUCEMENT

Alternative A

Case 1 / Case 2

Approximately 6,900 person-years of labor would be required during Project construction. This would be equivalent to about 770 jobs during the 9 year construction period./1/ These jobs can be expected to generate an equal amount of secondary support employment./2/

At full buildout, the Project would employ up to 4,000 workers. Job categories would include professional, managerial, clerical, maintenance, sales, and service workers. Some of these jobs would be filled by persons already living in San Francisco, others by new residents and commuters.

Housing in San Francisco, particularly low- and moderate-income units, are in short supply, so that new Project housing would be readily absorbed. The proposed 2,500 units would house about 5,000 people.

New workers and residents would stimulate the San Francisco economy through purchases of goods and services, thereby creating secondary income in the City. Project residents and workers would also partially support the retail commercial, service and recreational segments of the Project.

The Project would not inhibit hotel or office growth elsewhere in the downtown area; the market analysis conducted for the Northeast Waterfront Survey Area estimates that the Project has the potential to capture 2.4% of new office demand and 25% of new hotel demand in the downtown area in 1990./3/ The Project retail commercial and restaurant uses would be varied, and so cannot be similarly related to future demand. The market analysis identified unmet market demand for specialty retail and restaurants, demand generated partly by growth in the tourist industry. Some of this demand would be met by the Project.

The Project would require enlargements and other improvements of existing water, sewer and gas facilities in the Project area; however these would be made primarily to meet demand for the proposed Project and other new uses already planned for the area, such as the waterfront promenade. Thus, there would be no new development opportunities in the Project waterfront area beyond those currently proposed. The Project would improve the desirability of adjacent waterfront sites, and could encourage new development in off-site areas now in low-intensity uses.

Alternative B

Case 1 / Case 2

Approximately 9,800 person-years of labor would be required during the construction of Alternative B, or about 1,090 jobs for 9 years. These jobs would generate an equal amount of secondary employment. The completed Alternative B would employ about 7,000 workers, mostly white collar and retail. Both construction and on-going employment would be higher than under Alternative A. Alternative B would contribute 55% more housing units than Alternative A, and so would do more to alleviate pressure in San Francisco's housing market. The 3,876 units would house about 7,750 people. These residents and the new workers would provide more stimulation of the City's economy than the smaller Alternative A population.

Alternative B would have no effect on the City's hotel market, but could capture nearly 10% of new office demand in San Francisco in 1990. Other growth-inducing impacts of Alternative B would be the same as those identified for Alternative A.

Alternative C

Growth and decline of businesses in the area would continue at current rates without the Project.

NOTES - Growth Inducement

/1/ Assumes labor costs are 41% of construction, or $207 million. Construction salary is assumed to be $30,000 per year, and construction time would be 9 years.

/2/ City and County of San Francisco, Department of City Planning, Final Environmental Impact Report: Yerba Buena Center, EE 77.220, April 1978, Appendix D., Economics, p. 40cc.

/3/ Williams-Kuebelbeck and Associates, June 20, 1978, Market Analysis, Northeastern Waterfront Survey.

VI. SUMMARY OF MITIGATION MEASURES

A number of mitigation measures have been identified that would reduce or eliminate the potential adverse environmental effects of the proposed Project. Most of these measures would be adopted by the Redevelopment Agency and would be carried out through the implementation of the Proposed Redevelopment Plan. A few measures are still under consideration, and some have already been rejected.

Each mitigation measure and the status of each is discussed briefly below. Measures required by existing Ordinances or Codes are indicated. Where a measure has been rejected, the reasons for its rejection are discussed. Where an action is still under consideration or is suggested, the actions required for implementation are also shown. No mitigation measures are discussed for Alternative C (No Project) because existing conditions would remain and there would be no effects of Project implementation.

A. LAND USE, VISUAL AND AESTHETIC

The Redevelopment Agency would require the developer of the hotel to design the structure to shield occupants from noise generated by the Embarcadero Freeway to the maximum extent possible.

The final Project design would provide physical separation of the proposed residential uses in Block 3793 of the Rincon Point sub-area from the traffic on King St. and in Block 3773 from the holding tracks and truck storage facilities east of Beale St.

The Chief of Architecture of the Redevelopment Agency and the Director of City Planning would review specific Project design before recommending permit approvals to assure that the quality of design and the visual effects of the Project conform with pertinent policies and plans.

Mitigations for Alternative B would be the same as those discussed above, with the addition that the Embarcadero Freeway should be removed before the hotel is occupied.

B. BUSINESS RELOCATION

As required by the 1970 Uniform Relocation Act, the staff of the Redevelopment Agency would provide full allowable relocation assistance and benefits to all businesses (and residents, if applicable) that would be displaced from the Project area. The range of services would vary according to the needs of the business being displaced and would include assistance in processing relocation claims, assistance in the location of a suitable replacement site, assistance in obtaining financial needs through private lending sources, and provision of other general information to assist the business in making an informed decision relating to the move.

The Redevelopment Agency would notify businesses in the Project area that additional relocation and loan advisory assistance are available through the Mayor's Office of Economic Development, the Small Business Administration, the Economic Development Administration, Chambers of Commerce, and various trade associations, lending institutions and real estate agencies.

The local offices of the Small Business Administration would be informed of the Project and requested to work with the Redevelopment Agency and any eligible site occupants in extending their assistance.

C. SOCIAL AND EMPLOYMENT CHARACTERISTICS

The potential effects of employment displacement from the Project area would be mitigated in large part by the business relocation measures discussed in Section B, below.

D. FISCAL ASPECTS

None required. Annual revenues generated from the Project to the City and County and other affected agencies are expected to cover direct public costs to serve the Project, including capital and operating costs for additional police and fire personnel and equipment, if required.

E. COMMUNITY SERVICES

The Redevelopment Agency would require Project developers to incorporate the following measures into their development proposals, as appropriate:

Police

- Include burglar alarms as part of the design in all structures.
- Design all structures as secure buildings with controlled access, security staff, and camera monitors where appropriate.
- Design lighting and landscape plans to maximize visibility, particularly around entryways.
- Develop attended parking lots rather than self-park and -lock facilities.
- Meet with a representative of the Police Department's Crime Prevention Unit to obtain recommendations for security measures, applicable to individual development proposals. Recommended measures would be incorporated into design plans.

Fire

- Meet with the Fire Department to obtain specific fire safety and prevention measures for incorporation into specific design plans.

Schools

- None Required. The San Francisco Unified School District indicates that there would be available classroom capacity and that it would not require any additional staff or equipment to serve school children from the proposed Project. Should additional buses be required, Project generated revenues are expected to cover those costs.

Water Service

- Install native, drought-resistant vegetation in all park and landscaping areas to reduce watering requirements.

Wastewater

- Install low-flow fixtures to reduce the amount of wastewater generated by new structures.

Solid Waste

- Provide storage space for recyclable materials in all housing to encourage recycling activities.

- Include trash compaction facilities in the design of office and commercial buildings.

Parks and Recreation

- Coordinate with the Bureau of Traffic Engineering to provide traffic signalization and other safety features along routes from residential areas to park areas and where feasible, to schools, to allow safe access by children.

- Separate housing by fencing or other barriers from open major roadways, such as The Embarcadero.

- Install guard rails or other barriers between open water and areas where children might play without supervision.

As part of the Project design, the Redevelopment Agency would include plans for eating and sanitation facilities for the users of the marina as well as others who come to observe the boats and use nearby recreation facilities. This would prevent inconvenience to marine and recreation area patrons.

All building design and construction would be required to conform with all applicable City of San Francisco fire, and life safety codes, including installation of sprinkler, alarm, annunciator and emergency power systems as required.

California law requires installation of low-flow water fixtures in all new structures. The Project would be required to conform to this law.

The San Francisco Department of Public Works and Water Department would grant easements and/or rights-of-way over existing water mains, sewers and utility lines wherever feasible, to reduce the need for installing new facilities or for relocating existing ones.

The Redevelopment Agency would be responsible for providing all offsite improvements that would be required to provide adequate water and sanitary sewer service to the Project area. Water system improvements would have to meet the fire flow requirements of the San Francisco Fire Department.

F. TRANSPORTATION

The Redevelopment Agency would assure that Project design maintains high traffic access levels and would cooperate with MUNI to improve transit operations in the Project area. Possible improvements include: transit improvements as outlined in the MUNI Five Year Plan; coordination of development of the Project and other NEWS area projects to maximize transit use; develop financial incentives such as discount MUNI passes and van or car pool parking discounts to Project area employees to promote the use of transit; assist businesses and firms in the Project in maximizing transit, car pool and van pool use. The City could also encourage increased transit use through more restrictive on-street parking regulations and time limits in the Project area.

The Redevelopment Agency would assure that Project design provides off-street parking spaces for commercial and visitor vehicles.

By imposing conditions on development, the Redevelopment Agency would assure that construction would proceed with the least disruption to traffic circulation and parking in the area. Measures would include: street closures would occur only after the intended diversion route(s) have opened; construction equipment and vehicles would be stored on the construction sites; construction would be staged to retain as many parking spaces as possible; and, construction would be coordinated with railroad users to minimize potential disruption of freight movements.

G. CLIMATE AND AIR QUALITY

The Redevelopment Agency would require developers to conduct shadow analyses and wind studies as needed to determine the impacts of specific building designs, and adhere to recommended mitigation measures which result.
The Redevelopment Agency would require developers to: comply with BAAQMD Regulation 8, Rules 3 and 15 to reduce hydrocarbon emissions; sprinkle demolition and construction areas at least twice a day to reduce dust; and, by design, locate sensitive receptors away from major roads and freeways or provide adequate setbacks to reduce carbon monoxide impacts on them.

H. NOISE

Under both the San Francisco and State guidelines, noise analysis and noise insulation design would be required for proposed structures. The Redevelopment Agency would require developers to design structures to meet applicable noise criteria. The Agency would also require developers to comply with Title 25 of the California Administrative Code and conduct acoustical analyses for residences within annual exterior 60 dB CNEL (Community Noise Equivalent Level) contours. The Agency would require developers use noise attenuation measures as appropriate in design, including: installation of exterior noise barriers such as masonry walls or landscaped berms; noise insulation within walls of structures; and design and placement of residential structures so that they are shielded from major noise sources by non-residential structures.

I. RESOURCE USE

The San Francisco Redevelopment Agency would develop design criteria for the Project sites to preclude development from significantly shading other building sites or sites outside the Project area. The Agency would review each building design proposal to ensure that it would conform to these criteria.

The Redevelopment Agency would develop criteria for use in the design of each development to minimize the avoidable, unnecessary and/or wasteful use of nonrenewable energy and to encourage the use of renewable energy. The Agency would review each building design to ensure that it would conform to all criteria. See Appendix A for a sample list of such criteria.

J. GEOLOGY/SEISMICITY

The San Francisco Bureau of Building Inspection would require private developers to conduct soils and geotechnical studies. Individual developers would be required to incorporate recommendations of those studies into the structural designs of proposed buildings. Each soils study would include a detailed description of subsurface materials, including the materials' engineering properties and suitability for use as a foundation for the proposed structure; and would provide specific recommendations for grading, building foundation type, and other structural details.

The Redevelopment Agency would require, as a condition of special Project approval, that private developers require contractors to include in construction procedures:

- Determine the amount of spoils that would be removed from the specific Project and identify disposal sites, then develop haul routes to minimize effects on land uses and traffic, possibly including limitations on transport hours. These measures would reduce noise, dust, traffic and other impacts along the haul routes.

- Cover truck loads and clean truck wheels before traveling to reduce dust and potential sand and debris spills to reduce impacts on pedestrian and vehicular traffic, particularly motorcyclists and bicyclists.

The San Francisco Department of Public Works would require all major building contractors to post a surety bond before it would issue construction permits.

The building contractor would be responsible for any damage that might result from construction. Private developers would be required to design all buildings to the standards of the San Francisco Building Code, Article 23, Section 2314 A to K, and conform to the policies of the San Francisco Community Safety Plan.

The San Francisco Redevelopment Agency would require individual developers to design structures to meet the recommendations of the Uniform Building Code and the Structural Engineers Association of California in instances where these recommendations are stricter than those of the San Francisco Building Code. Private developers would be required by the Redevelopment Agency to incorporate additional seismic safety measures, especially in residential structures, such as firmly anchoring lighting and ornamental fixtures to walls and ceilings, and including well-labeled, manual shut-off valves for gas mains.

K. HYDROLOGY

The Redevelopment Agency would require each Project developer to implement the following measures during construction: restrict grading to the dry summer months of May through October or take other reasonable precautions to reduce erosion and siltation problems in the Project area; filter dewatering discharges through sediment traps before emptying them into storm drains; and landscape building sites as soon as grading is completed or take other reasonable precautions to reduce the amount erosion from the site.

The San Francisco Department of Public Works would require major building contractors to post a surety bond (or satisfactory evidence of insurance coverage) before the Department would issue building permits. The contractor would be responsible for any damage to adjacent structures from dewatering.

During the preliminary design of the marina, the Redevelopment Agency would hire a qualified hydrologist to conduct a detailed study of the potential impact of the marina on currents, sedimentation, and erosion. This study would address potential adverse impacts and irreversible changes to the Bay caused by construction of the marina; and would provide specific recommendations regarding the design and construction of the marina to reduce the identified adverse impacts. The Redevelopment Agency would prepare the final design of the marina based on the findings of that study. The Agency would also require marina design to provide protection against large stormwaves, large waves from the wake of ships, and the 100-year tsunami.

L. ECOLOGY

During the preliminary design of the marina, the Redevelopment Agency would hire a qualified marine biologist to conduct a detailed evaluation of the potential for adverse effects on marine biota which could result from construction activity and from long-term effects on local currents and sedimentation. The biologist would also identify measures to reduce or eliminate adverse effects. The Agency would prepare the final design of the marina based on the findings of that study.

M. HISTORIC AND ARCHAEOLOGICAL ASPECTS

Because of the limited amount of Project excavation, the Redevelopment Agency believes it more cost-effective to implement the following measure rather than conduct an archival search and subsurface investigation prior to construction:

If the contractors encounter a potential historic site, or archaeological or paleontological resource during the Project construction, the portion of the construction work which affects this find shall cease. The construction manager would be immediately notified of such a find and would consult with the Chief of Planning (SFRA) on selection of an archaeologist or paleontologist, as appropriate, to survey the area and to find and preserve the resources if possible and appropriate. Construction may be delayed for such work for up to 4 months; the contractor would be expected to cooperate in efforts to preserve the find.

The Redevelopment Agency is meeting with the State Historic Preservation Office to review National Register issues. The Redevelopment Agency would hire a cultural historian to prepare an overview of the redevelopment Project area which would describe the social activities of the people within the impact area, the places where these activities occurred and the meaning each event and its site had to the area's inhabitants.

VII. PROBABLE ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

The impacts presented below are for full development (1990) and apply to both Alternatives A and B unless noted otherwise. The impacts discussed would be unavoidable even after the implementation of mitigation measures proposed to reduce or eliminate potential adverse impacts (refer to Section VI., Summary of Mitigation Measures). If the Project is approved, certain proposed mitigation measures are expected to be implemented by the Redevelopment Agency through the provisions of the Redevelopment Plan, upon its adoption; or would be required by federal, state or local laws and ordinances.

LAND USE, ZONING, VISUAL AND AESTHETIC

The Project would change the existing land-use patterns in the Project area from primarily industrial, warehousing and manufacturing to residential, open-space, and commercial uses. In the South Beach sub-area, housing in some locations (at the western edge of the sub-area) would be opposite light industrial and manufacturing business, which would be an incompatible juxtaposition of uses. Visually, the Project area would be changed but it would be enhanced by development of the Project.

BUSINESS RELOCATION

Although the Redevelopment Agency would provide full allowable relocation benefits and assistance to eligible businesses that would be displaced from the Project area, some firms could still be expected to go out of business or relocate outside of San Francisco. Low in-lieu relocation limits may cause hardships on establishments which go out of business; these limits were set under the 1970 Uniform Relocation Act and have not been adjusted for inflation since then.

SOCIAL CHARACTERISTICS

Some blue-collar jobs would be lost in San Francisco in conjunction with the business displacement. This would be part of a continuing decline in the number of such jobs in the City.

FISCAL ASPECTS

The Project would require additional public expenditures for police protection and possibly for fire protection. Expenditures for other public services such as street and storm drain maintenance would also be expected to increase with the increased use of the Project area, although total revenues to the City from the Project are expected to exceed costs for required services.

COMMUNITY SERVICES

Existing capacity in public service categories would be diminished, and new personnel and equipment would be required by the Police and Fire Departments. School busing would be necessary for elementary students.

TRANSPORTATION

Construction hauling would temporarily increase traffic on access streets and haul routes. Construction would also temporarily increase parking demand on local streets.

Occupancy and use of the Project would increase both the number of vehicle and the number of transit trips originating or ending in the Project area. The increase in vehicle trips, together with expected increases in Downtown traffic, would decrease the level of service on Downtown streets. Local streets within the Project area would operate at acceptable levels of service.

Occupancy and use of the Project would also increase the demand for parking within the Project area.

CLIMATE AND AIR QUALITY

Construction activities would temporarily increase airborne dust and would add hydrocarbon emissions to the air in the Project area.

Occupancy and use of the Project would result in an increase in emissions from the Project area.

Emissions from the project-generated traffic would result in the exceedance of ambient standards for hydrocarbons in both sub-areas and for nitrogen oxides in the Rincon Point sub-area. The carbon monoxide standard would be exceeded at one sensitive receptor and approached at two other sensitive receptors in the South Beach sub-area.

NOISE

Construction noise would cause annoyance during daytime hours in neighboring buildings and areas. Pile-driving would result in the greatest increase in noise during construction; trucking would affect land uses along haul and trucking routes.

Occupancy and use of the Project would result in general increases in noise in the Project area of less than 1 dBA. However, existing noise levels throughout the Project area are high enough to require application of mitigation measures to meet noise standards for residential use.

RESOURCE USE

The Project would demand an additional 240 billion Btu-at-source of electricity per year, and 310 billion Btu-at-source of natural gas per year. Total vehicle fuel demand would increase to 390 billion Btu-at-source, annually.

GEOLOGY/SEISMICITY

Project implementation would expose employees and residents to the seismic hazards of the area.

VIII. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

In the redevelopment context, the only short-term effects are those primarily of the construction process which include noise from construction activities, dust, truck haul routes and associated traffic and land use impacts, energy used for construction and construction-related employment. Business displacement would probably be a short-term effect, as the Redevelopment Agency expects to relocate affected businesses as quickly as possible.

Based on the objectives of the Redevelopment Plan for the Rincon Point - South Beach Project, the proposed development would have several long-term effects on the northeastern waterfront area and the City as a whole. The Project would:

- remove most existing buildings, including structurally substandard buildings, and eliminate blight;
- stimulate and attract private investment, with the objective of improving the City's economic health, tax base, and employment opportunities;
- provide for the creation of waterfront parks;
- provide for mixed income housing, with the income goal of 20% low- and 30% moderate-income units;
- provide construction and continuing job opportunities through economic development, including neighborhood shopping facilities, a hotel complex and the restoration and adaptive reuse of certain historic structures; and
- provide for the improvement of The Embarcadero into a boulevard, and facilitate development of a new surface mass transit line.

The development would represent a long-term commitment by the City to provide necessary services, including police and fire protection, sewage treatment and disposal, solid waste collection, and schools.

Project implementation with HUD and City participation in the form of Community Block Grant funding would represent a long-term financial commitment on the part of both the federal government and the City. Private financial institutions would also be making long-term commitments.

The Project would have the long-term implication of changing the character of the existing waterfront area from industrial to commercial, residential, and visitor-serving. An estimated 13.5 acres of developed urban land would be developed into open-space, waterfront parks, creating future recreational opportunities for Project and Bay Area residents and employees.

The Project, once developed, would foreclose the future opportunity for new or expanded industrial use of the Project area, and the opportunity for maritime or water-dependent industrial uses at Piers 40, 42, 44, and 46A in the South Beach sub-area. Maritime uses have been declining in the Project area over the past ten years and would be expected to continue to decline with or without development of the Project. There would be long-term increased demand for fuel oil, natural gas, and electricity, which would consume basic energy sources.

The cumulative and long-term effects of the Project which would affect the environment include increased automobile trips caused by the development of the Project, which would lead to an increase in congestion and fuel consumption and result in impacts on noise and air quality.

IX. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED

Land in the Rincon Point - South Beach Redevelopment Project area would change from what is now mostly light industrial, warehousing and manufacturing uses to residential, commercial, open-space and visitor-serving uses. Although land uses in the Project area would be expected to change over time, the scale and nature of the development proposed represents environmental change not reversible within the next several generations. Project implementation would establish a residential neighborhood and population, particularly in the South Beach sub-area, in an area of the City which is presently non-residential.

Demolition of structures would be irreversible.

Operations after Project development would consume an additional 0.8 MGD of water. Non-renewable resources used would include an additional 240 billion Btu-at-source of electricity and 310 billion Btu-at-source of natural gas annually. Approximately 390 billion Btu-at-source of vehicle fuel energy per year would be consumed by Project residents and employees. Most materials used for construction would also be irreversibly committed.

The commitment of the Redevelopment Agency to the development of the Project would result in the unavoidable significant environmental effects described in Section VII. These effects would continue indefinitely.

X. REPORT AUTHORS AND PERSONS CONSULTED

EIR AUTHORS

San Francisco Redevelopment Agency
939 Ellis Street
San Francisco, CA 94109
Thomas G. Conrad, Chief
Planning, Housing & Programming
(415) 771-8800

EIR CONSULTANTS

Environmental Science Associates
1390 Market Street, Suite 215
San Francisco, CA 94102
(415) 552-4775

(Prime Consultant: Introductory Material, Planning and Regulatory Context, Proposed Redevelopment Plan, Alternatives Description, Business Relocation, Social Characteristics, Fiscal Aspects, Community Services, Climate and Air Quality, Noise, Resource Use, Geology/Seismicity, Hydrology, Ecology, Growth Inducement)

Richard Cole, Ph.D.:
Associate-in-Charge
Charles Bennett: Project Leader
Donna Pittman: Deputy Project Leader

John T. Warren, P.E.
Transportation Analysis Consultant
J. Warren & Associates
1330 Broadway, Suite 1311
Oakland, CA 94612
(415) 465-0980

Eleanor Mason Ramsey, Ph.D.
Archaeological & Historic Aspects Consultant
Mason Tillman Associates
2955 Avalon Avenue
Berkeley, CA 94705
(415) 549-0582

Samuel J. Cullers
Land Use, Zoning, & Aesthetic Aspects Consultant
Samuel J. Cullers & Associates
1900 Point West Way, Suite 171
Sacramento, CA 95815
(916) 920-2711

CITY AND COUNTY OF SAN FRANCSICO

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850 Bryant Street
San Francisco, CA 94103
(415) 553-1694
K. Mitzman, Staff Assistant

Department of Public Works
Bureau of Engineering
City Hall, Room 351
San Francisco, CA 94102
(415)-558-3676
R. Evans, Assistant Director

Department of Public Works
Bureau of Sanitary Engineering and Wastewater Program
770 Golden Gate Avenue
San Francisco, CA 94104
(415 558-2616
D. Hayashi, Coordinator of Public Participation
J. M. de la Cruz, Division Chief
M. Francies, Engineering Associate II

North Point Pollution Control Plant
Bay and Kearny Streets
San Francisco, CA 94133
(415) 558-4231
R. Chin, Supervisor

Fire Department
Fire Prevention and Investigation
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San Francisco, CA 94102
(415) 861-8000
R. E. Rose, Chief

Police Department, Hall of Justice
850 Bryant Street
San Francisco, CA 94103
(415) 553-1551
P. Libert, Officer, Planning and Research Division

Southern District Police Station
850 Bryant Street
San Francisco, CA 94103
(415) 553-9111
M. McKevitt, Captain

Water Department
City Distribution Division
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San Francisco, CA 94124
(415) 558-4503
J. E. Kenck, Manager
C. Wentworth, Engineering Department
J. Cooney, Engineer

San Francisco Redevelopment Agency
939 Ellis Street
San Francisco, CA 94109
(415) 771-8800
B. Amato, Asst. Planner
M. C. Haug-Boone, Asst. Planner

San Francisco Port Commission
Ferry Building
San Francisco, CA 94111
(415) 391-8000
A. Taormina, Deputy Port Director
S. Zeller, Mechanical Engineer

San Francisco Unified School District
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San Francisco, CA 94102
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R. Walker, Manager, Student Assignment Office
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R. Freebairn-Smith, Architect and Board of Directors' Member

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(415) 626-4000
F. Garbarino, Office Manager

Pacific Gas and Electric Company
245 Market Street
San Francisco, CA 94106
(415) 781-4211
L. Cordner, Engineering Department Representative

Pacific Telephone Company
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(415) 626-0828
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San Francisco, Ca 94133

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3 Embarcadero Center, Suite 2360
San Francisco, CA 94111

Thomas Crowley
Crowley Maritime
One Market Plaza, Suite 3800
San Francisco, CA 94105

John Elberling
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San Francisco, CA 94105

Beck Evans
Sierra Club
530 Bush Street
San Francisco, CA 94108

Bill Evers
On-Line Business Systems
115 Sansome, S.F. CA 94104

Ernie L. Gabiati
Gallo Salami, Inc.
250 Brannan Street
San Francisco, CA 94107

Anne Halsted
1308 Montgomery Street
San Francisco, CA 94133

Robert Katz
2 Whiting Street
San Francisco, CA 94133

Toby Levine
1366 Guerrero Street
San Francisco, CA 94110

Jenny Lew
6001 Riverside Blvd., #309
Sacramento, CA 95831

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San Francisco, CA 94105

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San Francisco, CA 94115

Phillip Sussman
Pacific Pipe Co.
P.O. Box 3351 Rincon Annex
San Francisco, CA 94119

XII. COMMENTS RECEIVED ON THE DRAFT EIR/EIS AND NOT REQUIRING RESPONSES

APPENDIX A - Energy Conservation

The following principles could be used by the San Francisco Redevelopment Agency when reviewing the design criteria of proposed buildings for the Rincon Point - South Beach Redevelopment Project.

A. Encourage the use of insulation, efficient fireplaces, and passive solar design measures to reduce the demand for natural gas used for space heating. Examples of such measures are:

- Orient the long axis of buildings within 20o of true east-west.
- Maximize window area on the south sides of buildings, and minimize window and door area on the north sides.
- Provide eaves or window overhangs, or landscape with deciduous trees adjacent to walls, to shade interiors from high summer sun yet allow penetration of low winter sun.
- Install double-pane windows and/or install insulated draperies.
- Install masonry floors and walls opposite south-facing windows to store solar heat.
- Install extra insulation beyond that required by State regulations in ceilings and walls and insulate the floors over unheated spaces.
- Locate any fireplaces entirely inside the exterior wall of the structures; do not install a natural gas outlet in the fireplace.
- Equip any fireplaces with metal fire boxes, heat exchangers and adjustable flues, or install free-standing fireplaces or Franklin-type stoves.

B. Encourage the use of efficient appliances and fixtures, and encourage the use of natural gas instead of electric appliances. Examples of measures are:

- Use natural gas for space and water heating (if solar is not provided) and for ranges and laundry dryers. Install natural gas furnaces, water heaters, ranges, and laundry dryers (all with pilotless ignition) instead of electric appliances.
- Select other installed electric appliances, such as dishwashers, disposals, and trash compactors on the basis of greatest energy efficiency.
- Locate windows and properly insulated skylights to provide natural light in frequently used work areas such as kitchen and sink areas.

- Locate bathrooms to accommodate windows for ventilation (and light) instead of fans.

- Use fluorescent lighting for all installed light fixtures in work areas (kitchens, bathrooms, etc.) and in common areas (corridors, laundry rooms, etc.).

- The City should be requested to install sodium-vapor lamps for all street and parking-lot lighting. Lighting should be the minimum amount necessary for public safety. Control lighting with photoelectric cells.

- Use accurate thermostats with readings in degrees to control water heaters.

- Locate water heaters as close as possible to the points of hot water use and insulate hot-water pipes.

- Use accurate clock-operated thermostats with day and night settings to control space heating.

C. Discourage appliances and fixtures which are wasteful of energy. Examples are:

- Electric resistance "spot" heaters in bathrooms.

- Infrared warmer lights in food preparation or bathroom areas.

- Infrared heaters for exterior restaurant eating areas (a combination of wind protection and passive solar heating system should be used).

- Architectural or exterior display lighting.

- Escalators to provide access between floors.

D. Encourage the use of public transit and the recycling of materials. Examples include:

- Coordinate with S.F. Muni to construct passenger shelters at appropriate points on the site. Provide for safety and convenience of passengers' access to shelters.

- Provide storage areas in all structures for recyclable materials (glass, cans, newspapers) to encourage recycling.

APPENDIX B

TABLE B-1: PROJECTED WATER USE AND WASTEWATER CONSUMPTION AFTER REDEVELOPMENT OF RINCON POINT AND SOUTH BEACH AREAS - ALTERNATIVE A

			Water Consumption* wet-weather (gpd)	Water Consumption* dry-weather (gpd)	Wastewater Generation** (gpd)
Rincon Point					
280,000 sq. ft. office			35,000	35,000	34,300
112,000 sq. ft. commercial			22,400	22,400	21,950
700 parking spaces			X	X	X
6.5 acres public park			X	25,220	X
800-room hotel			119,000	119,000	116,620
Total - Rincon Point			176,400	201,620	172,870
South Beach					
267,700 sq. ft. commercial			53,540	53,540	52,470
90,000 sq. ft. warehouse			9,000	9,000	8,820
7 acres public park			X	27,160	X
Total - South Beach			62,540	89,700	61,290
	Housing	Residents***			
Rincon Point	530 units	1,060	106,000	106,000	103,880
South Beach	1,965 units	3,930	393,000	393,000	385,140
Total	2,495	4,990	499,000	499,000	489,020
TOTAL WATER & WASTEWATER BOTH SITES			737,940	790,320	723,180

*Water consumption factors: office: 125 gallons per day/1,000 sq. ft.; commercial-retail: 200 gpd/1,000 sq. ft.; park - open space: 3,880 gpd/acre for 180 days (approximate dry season) (J. Sutro, S.F. Parks and Rec. Dept.); hotel: 85% double-occupancy, 175 gpd/room; warehouse - light industrial: 100 gpd/1,000 sq. ft.; dwelling units: 100 gpd/resident.
**Wastewater generation is assumed to be 98% of water consumption, except for park irrigation, which generates negligible amounts of wastewater.
***Two persons per household.

TABLE B-2: PROJECTED WATER USE AND WASTEWATER CONSUMPTION AFTER REDEVELOPMENT OF RINCON POINT AND SOUTH BEACH AREAS - ALTERNATIVE B

	Water Consumption* wet-weather (gpd)	Water Consumption* dry-weather (gpd)	Wastewater Generation** (gpd)
Rincon Point			
1,120,000 sq. ft. office	140,000	140,000	137,200
67,000 sq. ft. commercial	13,400	13,400	13,130
6.5 acres public park	x	25,220	x
	153,400	178,620	150,330
Total - Rincon Point			
South Beach			
261,000 sq. ft. commercial	52,200	52,200	51,160
7.5 acres public park	x	29,100	x
	52,200	81,300	51,160
Total - South Beach			

	Housing	Residents***			
Rincon Point	280 units	560	56,000	56,000	54,880
South Beach	3,596 units	7,192	219,200	719,200	704,820
	3,876	7,752	775,200	775,200	759,700
TOTAL WATER & WASTEWATER BOTH SITES			980,800	1,035,120	961,190

*Water consumption factors: office: 125 gallons per day/1,000 sq. ft.; commercial-retail: 200 gpd/1,000 sq. ft.; park - open space: 3,880 gpd/acre for 180 days (approximate dry season) (J. Sutro, S.F. Parks and Rec. Dept.); hotel: 85% double-occupancy, 175 gpd/room; warehouse - light industrial: 100 gpd/1,000 sq. ft.; dwelling units: 100 gpd/resident.
**Wastewater generation is assumed to be 98% of water consumption, except for park irrigation, which generates negligible amounts of wastewater.
***Two persons per household.

APPENDIX C

TABLE C-1: SAN FRANCISCO AIR POLLUTANT SUMMARY 1977-1979

STATION: 939 Ellis Street, San Francisco

POLLUTANT:	STANDARD	1977	1978	1979
OZONE (O_3) (Oxidant)				
1-hour concentration (ppm /a/)				
Highest hourly average	(0.08) 0.12/b,c/	0.05	0.11	0.08
Number of standard excesses		(0) 0	(4) 0	0
Expected Annual Excess/c/		0.3	0.3	0.0
CARBON MONOXIDE (CO)				
1-hour concentration (ppm)				
Highest hourly average	35/b/	16	17	20
Number of standard excesses		0	0	0
8-hour concentration (ppm)				
Highest 8-hour average	9/b/	8.9	9.4	13.8
Number of standard excesses		0	1	2
NITROGEN DIOXIDE (NO_2)				
1-hour concentration (ppm)				
Highest hourly average	0.25/d/	0.21	0.30	0.16
Number of standard excesses	0	4	0	
SULFUR DIOXIDE (SO_2)				
24-hour concentration (ppm)				
Highest 24-hour average	0.05/d/	0.035	0.024	0.034
Number of standard excesses/e,f/		0	0	0
TOTAL SUSPENDED PARTICULATE (TSP)				
24-hour concentration (ug/m^3 /g/)				
Highest 24-hour average	100/d/	105	128	117
Number of standard excesses/f/		1	1	1
Annual concentration (ug/m^3)				
Annual Geometric Mean	60/d/	41	42	42
Annual standard excess		No	No	No

/a/ ppm: parts per million.
/b/ National standard, not to be exceeded more than once per year (except for annual standards which are not to be exceeded).
/c/ The national ozone standard was revised from 0.08 ppm to 0.12 ppm in January 1979. The number of excesses shown in parentheses is of the old 0.08 ppm standard in effect at the time. Expected Annual Excess is a three-year average of annual excesses of the new 0.12 ppm standard.
/d/ California standard, not to be equaled or exceeded.
/e/ The sulfur dioxide standard is considered to be exceeded only if there is a concurrent excess of the state ozone or suspended particulate standards at the same station. Otherwise, the national standard of 0.14 ppm applies.
/f/ Number of observed excess days (measurements taken once every six days).
/g/ ug/m^3: micrograms per cubic meter.
SOURCE: BAAQMD, 1977 - 1979, Contaminant and Weather Summaries.

APPENDIX D

NATIONAL REGISTER OF HISTORIC PLACES: CRITERIA FOR EVALUATION
36CFR Part 60.6

The criteria applied to evaluate properties for possible inclusion in the National Register are listed below. These criteria are worded in a manner to provide for the diversity of resources. The following criteria shall be used in evaluating properties for nomination to the National Register, by the National Park Service in reviewing nominations, and for evaluating National Register eligibility of properties affected by Federal agency undertakings.

National Register Criteria for Evaluation. The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or

(c) that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important to prehistory or history.